

Malthouse
Law
Books

Nigerian Oil and Gas Law

Adamu Kyuka Usman

VISIT...

LANZAROTE
Caliente.COM

Nigerian Oil and Gas Industry
Laws, Institutions and Policies

Related titles

Henrietta C. Otokunefor, *Nigerian Petroleum Industry, Policies and Conflict Relations: Annotated Articles and Bibliography Vol. 1*

Henrietta C. Otokunefor, *Nigerian Petroleum Industry, Policies and Conflict Relations; Annotated Articles and Bibliography Vol. 2*

Nigerian Oil and Gas Industry *Laws, Policies, and Institutions*

By

Professor Adamu Kyuka Usman

m a l t h o u s e 

Malthouse Press Limited

Lagos, Benin, Ibadan, Jos, Port-Harcourt, Zaria

©Adamu Kyuka Usman 2017
First Published 2017
ISBN: 978-987-547-755-1

Published and manufactured in Nigeria by
Malthouse Press Limited

43 Onitana Street, Off Stadium Hotel Road,
Off Western Avenue, Lagos Mainland
E-mail: malthouse_press@yahoo.com
malthouselagos@gmail.com
Website: malthouselagos.com
Tel: +234 802 600 3203

All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, chemical, thermal, manual or otherwise, without the prior consent in writing of Malthouse Press Limited, Lagos, Nigeria.

This book is sold subject to the condition that it shall not by way of trade, or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in writing, in any form of binding or cover other than in which it is published and without a similar condition, including this condition, being imposed on the subsequent purchaser.

Dedication

To the Conscionable Lawyer

Acknowledgements

I cannot possibly acknowledge in person everyone that contributed to giving life to this book largely because I cannot remember the names of some of the people that so contributed. Most of the book was written when I was on Sabbatical Leave at National Petroleum Investment Management Services (NAPIMS) Lagos from 2013 to 2014. In the course of writing the book, I approached many NAPIMS staff from petroleum geologists to petroleum engineers and lawyers for explanation of various oil and gas issues I did not understand. In the Nigerian National Petroleum Corporation (NNPC) bus that I used to board when going to work and when coming from work, I accessed knowledge from these people. At work in their various offices, I accessed knowledge from these people. Almost everyone I approached for explanation of one issue or the other, I found was not only willing, but excited to explain the issue to me. I also found that the staff were so knowledgeable in oil and gas matters that the problem often was not their being able to explain what I was seeking explanation of, but my ability to keep pace with their often fast-paced explanations. Most of them were so deep in their knowledge of oil and gas issues that they were to me like the oil wells they drilled – invaluable reservoirs of black gold. When I returned from my Sabbatical Leave and a colleague at the Faculty of Law Ahmadu Bello University, Zaria asked me if I was able to have granted to me an oil well when I was at NAPIMS, I said yes. He was surprised, and I thought, envious. But I quickly relieved him by telling him the oil well I was granted was not the type he supposed: It was the oil well of knowledge of oil and gas issues. I deeply appreciate all the kind staff of NAPIMS that so willingly and competently explained to me operational and regulatory oil and gas issues I knew little about. In particular, I thank Alex Tarka then Deputy Manager Joint Ventures for the various lecture series I had in his office on petroleum geology and field operations.

I also thank Steve Bawa for getting me the Sabbatical Appointment with NNPC. I thank the authorities of Ahmadu Bello University for granting me Sabbatical Leave to take up the Appointment. Finally, I thank my wife Maria and my three Children, Justice, Sunfair and Fairprincess for giving me the peace of mind to write the book.

Preface

This book of Thirty-one chapters is divided into five parts namely: Part A, B, C, D and E. Part A deals with policy, regulatory and operational institutions in the Nigerian oil and gas industry. The policy institutions are the Nigerian President and the Minister of Petroleum Resources. The regulatory institutions are the National Council of Ministers, the NNPC Board, the Petroleum Inspectorate and the Department of Petroleum Resources (DPR). The operational institutions include the Nigeria National Petroleum Corporation (NNPC) with all its directorates, subsidiaries and Corporate Service Units, International Oil Corporations operating in Nigeria, and indigenous Nigerian oil companies.

Part B dwells on upstream oil and gas issues, law and policy. Issues of petroleum geology and engineering, seismic data acquisition, oil and gas exploration and prospecting, drilling and production of oil, the law and policy on these issues are all dealt with in this part.

Part C is on prototype oil and gas prospecting and production agreements such as Concessions, Joint Venture Agreements, Production Sharing Contracts and Service Contracts. It also dwells on prototype oil and gas agreements for hire of services or lease of equipment.

Part D deals with downstream oil and gas issues, law and policy, petroleum refining and gas processing, transportation, marketing and distribution of refined petroleum and processed gas and their by-products. The law and policy on these issues are dealt with here.

Part E considers the impact of the oil and gas industry on Nigeria's economic and industrial development, on politics, the environment and host communities. The law and policy on some of these issues are considered along with the issues.

Nigerian oil and gas law is essentially statutory and contractual. The five parts this book is divided into bare this fact out.

If an issue does not fall within the core thrust of this text, but it is an issue that advances knowledge of the oil and gas industry, it is placed under the glossary column at the back of the book.

It is hoped the book will make a modest contribution to other books already in existence on the subject. It is also hoped it would be found useful to the oil and gas industry and those interested in the industry.

Abbreviations and Acronyms

ARP	Approved Retail Price
AU	African Union
BFP	Basic Fuel Price
CBA	Collective Bargaining Agreement
CBN	Central Bank of Nigeria
CCMA	Commission for Conciliation, Mediation and Arbitration
CFC	Chlorofluorocarbons
CSR	Corporate Social Responsibility
DPR	Department of Petroleum Resources
ECOWAS	Economic Community of West African States
EOMP	Expected Open Market Price
GDP	Gross Domestic Product
IAP	Industrial Arbitration Panel
ICT	Information and Communications Technology
ILO	International Labour Organisation
IMF	International Monetary Fund
IPMAN	Independent Petroleum Marketers Association of Nigeria
LDCs	Less Developed Countries
LPG	Liquefied Petroleum Gas
MDA	Ministries, Departments and Agencies
MDGs	Millennium Development Goals
MNCs	Multinational corporations
MOU	Memorandum of Understanding
NAFDAC	National Agency for Food and Drugs Administration and
NAOC	National Oil Corporation
NAPIMS	National Petroleum Investment Management Services
NBS	Nigeria Bureau of Statistics
NBTE	National Board for Technical Education
NCCA	National Commission for Conciliation and Arbitration
NCCE	National Commission for Colleges of Education
NDDC	Niger Delta Development Commission
NECA	Nigerian Employers' Consultative Association
NEEDS	National Economic Empowerment and Development Strategy
NGOs	Non-governmental organizations
NIC	National Industrial Court

NLAC	National Labour Advisory Council
NLC	Nigeria Labour Congress
NNOC	Nigerian National Oil Corporation
NNPC	Nigerian National Petroleum Corporation
NOCs	National Oil Companies
NPF	Nigeria Police Force
NSITF	Nigeria Social Insurance Trust Fund
NSIWC	National Salaries, Incomes and Wages Commission
NUC	National Universities Commission
NUPENG	Nigeria Union of Petroleum and Natural Gas Workers
OMCs	Oil marketing companies
OMPADEC	Oil Mineral Producing Areas Development Commission
OPEC	Organisation of Petroleum Exporting Countries
PENGASSAN	Petroleum and Natural Gas Senior Staff Association of Nigeria
PHCN	Power Holding Company of Nigeria
PIB	Petroleum Industry Bill
PMS	Premium Motor Spirit
PPMC	Pipelines and Product Marketing Company
PPRA	Petroleum Products Pricing Regulatory Agency
PRSP	Poverty Reduction Strategy Paper
PSF	Petroleum Support Fund
RMAFC	Revenue Mobilisation Allocation and Fiscal Commission
SAP	Structural Adjustment Programme
SMEs	Small and Medium-scale Enterprises
sms	Short Message Service
SON	Standard Organisation of Nigeria
SPDC	Shell Petroleum Development Company
SPL	Subsidy Per Litre
TDA	Trade Disputes Act
TNCs	Transnational Corporations
TUA	Trade Unions Act
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organisation
UNO	United Nations Organisation
UPPF	Unified Petroleum Price Fund
WHO	World Health Organisation
WTO	World Trade Organization

Contents and Entries

Dedication

Acknowledgements

Preface

Abbreviations and Acronyms

Introduction

PART A: Oil and Gas Policy, Regulatory and Operational Institutions

Policy and Regulatory Institutions; 1

- The President; 1
- The Minister; 1
- The National Council of Ministers
- NNPC Board; 4
- Petroleum Inspectorate; 6
- Department of Petroleum Resources (DPR); 6

Operational Institutions

- Nigerian National Petroleum Corporation; 11
 - Reasons for the Establishment of National Oil Companies; 11
 - NNPC Structure; 12
 - NNPC Directorates; 13
 - Exploration and Production; 13
 - Refining and Petrochemicals; 13
 - Commercial and Investment; 13
 - Finance and Account; 14
 - Gas and Power; 14
- NNPC Subsidiaries; 14
 - Nigerian Petroleum Development Company (NPDC); 14
 - National Engineering and Technical Company (NETCO); 15
 - Pipelines and Products Marketing Company (PPMC); 16
 - Integrated Data Services Ltd (IDSL); 17
 - Warri Refining and Petrochemical Company (WRPC); 18
 - Kaduna Refining and Petrochemical Company (KRPC); 19
 - Port Harcourt Refining Company Ltd (PHRC); 19
 - Nigeria-Gazprom Ltd; 20
 - Nikorma Transport Ltd; 20

- Midas Marine Ltd; 20
- Hydrocarbon Services Company Ltd; 20
- NNPC Pension Fund Ltd; 20
- NNPC Properties Ltd; 21
- NNPC Retail Ltd; 21
- Duke Oil Services Ltd; 21
- Calson Bermuda Ltd; 22
- Nigerian Gas Company; 22
- NNPC Quasi-subsidary Gas Companies; 23
 - Olokola Liquefied Natural Gas; 23
 - Escravos Gas-To-Liquid Project; 24
 - Oso NGL Plant; 25
 - Brass Liquefied Natural Gas Ltd; 25
 - Eleme Petrochemical Company Ltd; 26
- NNPC Corporate Service Units; 27
 - National Petroleum Investment Management Service; 27
 - National Petroleum Assets Management Corporation; 29
 - Crude Oil Marketing Division; 30
 - Requirements for buying and selling Nigerian crude oil under Term Contracts; 30
 - Crude Oil for refined products swaps; 36
 - Research and Development Corporate Service Unit; 36
 - Engineering and Technology Division; 37
 - Information Technology Corporate Service Unit; 37
 - National Frontiers Exploration Services; 37
 - Liquefied Natural Gas; 38
 - Group Public Affairs; 38
 - Group Human Resources; 38
 - Special Projects; 38
 - Greenfield Refineries; 38
 - Renewable Energy; 39
 - Nigerian Content; 40
- Nigerian Oil and Gas Industry Content Development Act 2010; 42
 - Stringent conditions for allottees of marginal fields; 44
 - Upstream Business Development; 46
 - Downstream Business Development; 46
 - Medical Services; 46
 - Corporate Planning and Development; 46
 - Gas Master Plan; 47
 - Power; 47
 - Finance; 47
 - Accounts; 47
 - Audit; 47
- Regulatory and Policy Compliance Corporate Service Unit; 47
 - Strategic Business Unit (SBU); 48

- corporate service unit; 49
- Institutional Structures under the Petroleum Industry Bill 2012
- NNPC and the need for reform; 51

International and indigenous oil corporations; 53

- Shell Petroleum Development Company; 53
- Mobil Producing Nigeria; 54
- Chevron Nigeria Limited; 55
- Total Exploration and Production Nigeria Ltd; 55
- Nigerian Agip Oil Company Limited; 56
- Texaco; 57
- Dubri Oil; 57
- Famfa Oil Nigeria Ltd; 57
- South Atlantic Petroleum; 57
- Consolidated Oil Nigeria Producing Limited ; 57

International Oil and Gas Corporations; 59

- Organization of Petroleum Exporting Countries; 59
 - structure and organization; 61
 - Contributions and Achievements; 61
 - Present and Future OPEC - Challenges and Prospects; 66
- World Petroleum Council; 68
- Gas Exporting Countries Forum; 69
- The World Energy Councils; 70
- Shadowy Oil Cartels; 70
- Old Seven Sisters; 70
- New Seven Sisters; 71

PART B: Upstream Oil and Gas Issues, Law and Policy

Discovery, Uses and Importance of Oil and Gas in Nigeria; 73

- Uses of Oil; 77
- Importance of Oil; 79
- Discovery of Gas; 80
 - Uses of Gas; 80
 - Importance of gas; 81
- Major Events in the history of the Nigerian Oil and Gas Industry; 81

Surveys for Oil and Gas and Mapping of Oil and Gas Blocs; 85

- Types of Oil and Gas Survey; 85
 - Reconnaissance survey; 85
 - Seismic survey; 85
- Seismic Survey, Seismic Data Acquisition, Processing and Interpretation; 85
- Mapping of Oil Blocs; 87

Petroleum Geology, Petroleum Engineering, Naming and Designation of Oil Fields, Wells and Discovery Reports; 89

- Petroleum geology; 89
 - Source; 90
 - Reservoir; 90
 - Seal; 90
 - Trap; 90
 - Maturation; 90
 - Migration; 90
 - Timing; 90
- Petroleum engineering; 90
 - Oil Drilling; 91
 - Types of Oil Wells; 91
 - Getting oil out of the Well; 91
- Types of Drilling for Oil; 93
 - Vertical Drilling; 93
 - Horizontal Drilling; 94
 - Directional Drilling; 94
 - Multilateral Drilling; 94
 - Extended Reach Drilling; 94
 - Complex Path Drilling; 94
- Naming and Designation of Oil wells and Fields; 95
- Discovery Reports; 96

Oil Exploration, Oil Prospecting and Oil Mining; 97

- Definition of Oil Exploration and Oil Prospecting; 97
- Grant of Oil Exploration, Oil Prospecting Licence and Oil Mining Lease by the Minister of Petroleum; 99
 - Oil prospecting licences; 100
 - Oil mining leases; 100
 - Character of an Oil Exploration, Oil Prospecting License and Oil Mining Lease; 101
- Registration of Oil Prospecting License and Oil Mining Lease; 103
- Stamping of Oil Mining Leases; 104
- Duration of Oil Exploration and Oil Prospecting Licence; 104
- Petroleum Exploration Work Programme; 105
- Discovery of Oil and Gas; 107
- Unitization of Oil Blocs; 109
- Right to a Mining Lease; 111
- Life Span of a Lease; 112
- Renewal of Lease; 114
- Relinquishment; 114
- Surrender of Licence or Lease; 117
- Right of way; 117
- Licence and Lease Award Process; 118
 - Assignment and Renewal of Oil Prospecting Licences and Oil Mining Leases; 121
 - Assignments, Mergers and Acquisitions; 123

- Grounds for Revocation of Licence or Lease; 124
- Discretion of the Minister of Petroleum to grant a Prospecting Licence and Oil Mining Lease; 126
- Examination and Export of Samples, Specimens of Rock and Petroleum; 127
- Rights and Powers of an Oil Exploration Licensee; 128
- Duties of an Oil Exploration Licensee; 128
- Rights and Powers of an Oil Prospecting Licensee and Oil Mining Lessee; 133
- Duties of an Oil Prospecting Licensee and Oil Mining Lessee; 133
 - Environmental Quality Management; 138
 - Domestic Gas Supply Obligation; 138
 - Transparency; 139

Drilling and Production of Oil; 141

- Stage for Oil Drilling and Production; 141
- Drilling for Oil and Production of Oil; 141
 - Operation of Drilling Rigs; 143
 - Maintenance of Apparatus and Conduct of Operations; 144
 - Boundary marks; 144
 - Field Development Programme; 145
 - Progress Reports; 146
 - Production of Crude Oil and Natural Gas; 146
 - Confinement of Petroleum; 147
 - Drainage of waste oil; 149
 - Compliance with safety regulations and instructions; 150
 - Termination; 150
 - Records of Boreholes and Wells; 151
 - Records of Subsurface Plans, Maps, Charts and Sections; 152
 - Measurement and Weighing of Crude Oil and Natural Gas; 154
 - Accounts and Particulars; 155
 - Oil Wells Abandonment; 155

Gas Gathering and Processing Distinguished from Petroleum Mining and Production; 157

- Gathering and Processing of Gas by Floating Liquefied Natural Gas Technique; 157

Storage of Oil and Gas; 159

- Storage of Oil; 159
- Storage of Gas; 159
- Depleted Gas Reservoir; 160
- Aquifer Reservoir; 161
- Salt formation; 162
- LNG Storage facilities; 162
- Pipeline Storage; 162
- Gas Holder Storage; 163
- Future of Gas Storage Technology; 163

Transportation of Crude Oil and Gas; 165

- Transportation of Crude Oil; 165
- Oil Pipelines Survey Permit; 165
 - Restrictions on the Survey Permit; 169
- Oil Pipeline Licence; 169
 - Notice of Application for Pipeline Licence; 170
 - Objections to Application for Pipeline Licence and Hearing of Objections; 171
 - Rights, Powers and Liabilities of an Oil Pipeline Licensee; 172
 - Duration and Contents of an Oil Pipeline Licence; 175
 - Application to use Oil Pipeline by a Non-Owner; 176
- Compensation; 177
- Hindering or Obstructing Entering or Taking Possession of Land Pursuant to an Oil Pipeline Licence; 179
 - Breach of Oil Pipeline Licence; 180
 - Pipelines Design; 181
 - Pipelines construction; 182
 - Inspection and Testing of Pipelines; 184
 - Pipelines Operation and Maintenance Guidelines; 186
- Transportation of Gas; 186
 - Gas Transmission and Distribution Guidelines; 187
- The contractual character of Permits, Licences and Leases; 188

Risks and Expenses of Oil and Gas Operations and the Guarantees Needed For Oil and Gas Operations; 189

- Risk of Oil and Gas Operations; 189
- Expenses of Oil and Gas Operations; 189
 - Insurance; 190
 - Principle of Uberrimae fidei; 191
 - Principle of Insurable Interest; 191
 - Principle of Indemnity; 191
 - Principle of Contribution; 192
 - Principle of Subrogation; 192
 - Principle of Loss Minimization; 192
 - Principle of Causa Proxima (Nearest Cause); 192
- Arbitration; 193
 - The Chartered Institute of Arbitration clause; 193
 - London Court of International Arbitration clause; 194
 - International Court of Arbitration Clause; 194
 - Doctrine of Kompetenz-Kompetenz; 195
 - Principle of Separability; 196
 - Force Majeure; 196

Ownership of Oil and Gas; 199

- Theories of Oil and Gas Ownership; 199
- Ownership of Oil and Gas by the Nigerian State under Nigerian Law; 200

- Ownership of Oil and Gas by the Nigerian State under International Law; 200
- Ownership of Oil and Gas in other Jurisdictions; 201

PART C: Prototype Oil and Gas Contracts

The Concession; 205

- The Concession; 205
 - Definition and Legal Basis of Concession; 205
 - Types of Concessions; 205
 - Samples of Oil Prospecting Licences and Oil Mining Leases; 207
 - State of Michigan Oil Prospecting Licences and Oil Mining leases Sample; 207
 - Definitions; 207
 - Term of Lease; 209
 - Economic Terms; 211
 - C1. Rentals; 211
 - Terms for Shut-in Wells and Wells Suspended from Operation; 213
 - Default of Lease; 214
 - Assignments and Contracts; 215
 - Surface Damage Payments; 216
 - Records and Logs; 217
 - Environmental Terms; 218
 - Lessor's Rights; 219
 - Lessee's Rights; 221
 - Reclassification of Land under Lease; 221

Joint Venture and Joint Operating Agreements; 223

- Joint Venture Agreement; 223
- Joint Operating Agreement; 223
- Appointment of Operator; 223
- Operator's Right, Powers and Responsibilities; 224
- Cessation of Operatorship; 226
- Resignation of Operator; 227
- Appointment of Successor Operator; 228
- Change of Operatorship, Transfer of Property on Change of Operator; 228
- Audit of Accounts on Change of Operator; 228
- Disposal of Joint Property by Operator; 229
- Use of a Party's Equipment by Operator; 229
- Operator's Business and Activities Outside the Joint Operations; 229
- Operating Committee, Its Establishment, Powers and Duties; 229
- Members and Function of the Operating Committee; 230
- Meetings; 230
- Quorum; 231
- Procedure; 231

- Decision without a Meeting; 231
- Sub-Committees; 232
- Time Table for work Programmes and Budgets; 232
- Rights of the Parties; 232
 - Access; 232
 - Technology, Data, Patents and Patent Rights; 233
- Funding of Joint Operations; 233
 - Sharing of Funding; 233
- Cash Calls; 234
- Payments for Joint Operating Expenditures; 235
 - Cash Call Crude; 235
- Failure of a Party to Pay or to Provide for Payment of a Cash Call; 236
- Financial Reports and Returns; 237
- Internal Audits; 238
- Audits of Joint Account; 238
- Payments to Government; 238
 - Rates, Taxes and Charges; 238
- Sole Risk Operations; 238
 - Conditions for Sole Risk Operations; 239
- Sole Risk Notice; 239
- Sole Risk Operation as Joint Operations; 239
- Sole Risk Operation; 340
- Operator of Sole Risk Operation; 340
- Commencement of Sole Risk Operation; 340
- Information Concerning Sole Risk Operation; 340
- Election to participate in Further Work; 340
- . Use of Joint Property and Personnel of Operator for Sole Risk Operation; 241
- Indemnification of the Non-Participating Party; 241
- . Title to the Sole Risk Operation, Production and Facilities; 241
- . Reports and Dealing with the Government; 241
 - Representation of Parties before Government; 241
 - Reports and Applications; 241
 - Copies of Reports; 241
 - Assistance of Non-Operator; 241
 - Training and Assignment of NNPC Staff; 241
 - Handling of Information Obtained from Operations; 241
 - Confidentiality; 243
 - Non-Disclosure; 243
- Disposal of Crude Oil; 243
 - Rights of Parties; 243
- Passing of Title; 243
- Assignment and Transfer; 243
 - rights to Assign or Transfer; 243
 - Assignment of Operatorship to Operator's Affiliate; 244
 - Parties' Preferential Right and Option; 244

- Effective Date of Transfer; 245
- Retention of Liability by Transferring Party; 245
- Pre-Assignment Obligations; 245
- Obtaining of Government Consents; 245
- Costs and Expenses; 246
- Encumbrances; 246
- Relation of the Parties; 246
- Litigation; 246
- Contract Tender Procedure; 246
- General Conditions of Contracts; 247
 - Payment Terms; 247
 - Language of Contract; 248
 - Laws, Regulations and Permits; 248
 - Termination; 248
 - Local Subsidiary; 248
- Materials & Equipment Procurement Procedure; 248
- Project Monitoring; 249
- Uniform Nomination, Ship Scheduling and Lifting Procedure; 249
 - Definition of Terms; 249
 - Notice of Availability; 250
 - Operator's Reports; 250
 - Notification of Lifting Schedules; 251
 - Tanker Substitution; 251
 - Overlapping Date Ranges; 251
 - Confirmation of Lifting Schedules; 251
 - Operational Delays; 251
 - Estimated Delayed Arrival of a Tanker; 251
 - Tanker Standards; 252
- Production Decreases/Increases Subsequent To Nomination; 252
- Delivery Terms and Conditions; 252
 - Tanker Notification; 253
 - Notice of Readiness; 253
 - Early Tanker Arrival; 253
 - Late Tanker Arrival; 253
 - Laytime; 253
 - Demurrage; 253
 - Change of Berth; 254
 - Tanker Departure; 254
 - Loading Hoses; 254
 - Partial Cargo; 254
- Crude Oil Quality and Measurement; 254
 - Certification; 254
 - Acceptance of Certificate; 255
 - Rejection Certificate; 255
 - Quantity Determination; 255

- Quality Determination; 255
- Samples; 255
- Non-Waiver of Enforcement of Agreement; 255
 - Change of Regulations; 256
 - Arbitration Procedure; 256
 - Arbitration Legislation; 256
 - Venue; 256
 - Governing Law; 256
- The Cash Call Debacle; 256
- Participating Agreements; 257

Production Sharing Contracts; 261

- Fundamental Provision in a Production Sharing Contracts; 261
 - National interest provision; 261
 - Relinquishment clause; 261
 - Term contract; 261
 - Rights and obligations of the parties; 262
 - Bonuses; 263
 - Recovery of Operating Cost and Crude Oil Allocation; 263
 - Carry Provision; 263
 - Confidentiality and Public Announcements; 264
 - Force Majeure; 264
 - Royalty and Taxes; 264
 - Non-Capital Costs; 265
 - Operating Cost; 265
 - Minimum work/expenditure provision; 265
- Capital Costs; 268
- Computation of Royalty, Concession Rentals and PPT; 269
- Lifting Allocation; 270
- Adjustments of Lifting Allocations; 270
- Definition of Terms; 271
- Production/Notice of Availability; 271
- The Contractor's Reports; 272
- Project Implementation Procedure; 273
- Scheduling Notification; 274
- Production Decreases/Increases Subsequent to Nomination; 275
- Delivery Terms and Conditions; 276
- Crude Oil Quantity and Measurement; 278
- Subcontracting; 279
- Contract Tender Procedure; 280
- General Conditions for Subcontracting; 281
 - Materials and Equipment Procurement; 282
- Project Monitoring; 283
- Laws and Regulations; 284
- Summary; 284

Service Contract; 285

- Duties and Obligations of the Contractor; 285
- Rights and Obligations of NNPC; 287
- Exploration Programme and Budget; 288
- Management Committee; 288
- Composition of Management Committee; 288
- Appraisal Programme and Budget; 289
- Production Operations; 290
- Payment to the Contractor; 291
- Title of NNPC to Petroleum and other Moveables; 291
- Utilization of Natural Gas; 292
- Employment and Training of Nigerians; 292
- Sub-Contractors; 293
- Contractor's Accounting; 293
- Taxes, Royalties, Dues; 294
- Insurance; 294
- Confidentiality; 294
- Force Majeure; 295
- Laws and Regulations; 295
- Termination; 296

FPSO (Floating Production Storage and Offloading) Charter Contract; 299

- Subcontract Foundations of FPSO Charter Contracts; 299
- Threshold Representations and Assurances by the Contractor; 299
- Delivery; 300
- Contractor's Responsibilities; 301
- Contractor's Personnel; 301
- Company's Obligations; 302
- Term of Charter; 303
- Relationship of the Parties; 303
- Representations and Warranties of the Contractor and the Company; 304
- Guarantees; 305
- Reimbursable Expenses; 305
- Liens; 305
- Health, Safety and Environmental Obligations; 306
- Taxes; 307
- Conflicts of Interest; 309
- Party Representatives; 309
- Termination; 310
- Maintenance, Reduced Performance and Shut Down; 311
- Options to Lay-up and to Relocate FPSO; 311
- Requisition; 312
- Actual or Constructive Total Loss; 312
- Variations; 312
- Assignment; 313

- Redelivery of FPSO; 314
- Pollution Control; 314
- Force Majeure; 314
- Insurance; 315
- Arbitration; 315
- Demobilization; 316

Crude Oil Term Sale Contract; 317

- General terms and conditions for the sale of crude oil and oil products; 317
 - Title and risk; 317
 - Quality and quantity; 318
 - Inspection; 318
- Purchase Price, Surety, Advance and Payment; 319
 - Purchase Price; 319
 - Surety; 319
 - Advance; 319
 - Payment; 320
- Transportation, Demurrage and Overtime, Nominations and Insurance; 321
 - Transportation; 321
 - Demurrage and overtime – nominations; 321
 - Insurance; 321
- Documents; 322
- Taxes, levy and dues; 322
- Disputes; 322
- Liability; 322
 - Liability of the Seller; 322
 - Liability of the Buyer; 323
 - Liability of the Buyer and the Seller; 323
- Health, safety and environment; 323
- Trade, control and boycott; 324
- Anti-corruption; 325
- Force Majeure; 325
- Termination; 326
- Assignment; 327
- Severability; 327
- Applicable law and jurisdiction; 328

Fiscal Incentives and Returns on Oil and Gas; 329

- Rational Foundations for Fiscal Incentives for Oil and Gas Companies and Returns on Oil and Gas; 329
- Instruments of fiscal incentives to oil and gas companies; 329
 - Statutes; 329
 - Side Letter; 332
 - Memorandum of Understanding; 332
 - Investment Tax Credits; 333
 - Investment Allowance; 334
 - Capital Allowance; 334

- Depreciation Allowance; 334
- Returns on Oil and Gas; 335
- Returns on Participating Interests; 335
- Returns on Ownership Rights; 335
 - Rents; 335
 - Royalties; 336
- Petroleum Profits Tax; 338

Stability of Oil and Gas Investment Contracts and Protection of Foreign Investment; 341

- Stability of Oil and Gas Exploration and Production Contracts; 341
- Legal Perspectives on Stability of Oil and Gas Contracts; 342
- Renegotiation of Investment Contracts; 346
- Protection of Foreign Investment; 347
 - Admission of the investment; 347
 - Fair and equitable treatment; 350
 - Full protection and Security; 351
- Expropriation of Foreign Investment; 353

Corporate Environmental Responsibility and Corporate Social Responsibility of Oil and Gas Corporations; 357

- Corporate Environmental Responsibility; 357
- Corporate Environmental Responsibility of Oil and Gas Corporations under Nigerian and International Law; 358
 - Nigerian Legal Provisions; 358
 - International Legal Provisions; 366
 - Environmental protection clauses in oil and gas contracts; 367
 - Compliance with domestic and international standards; 367
 - Environmental Impact Assessment Clauses; 368
 - Clauses on Access to Protected Areas; 368
 - Clauses on Access to Water & Other Natural Resources; 369
 - Clauses on Gas Flaring; 370
 - Clauses on Responding to Emergencies and Accidents; 370
 - Clauses on Liability, Indemnity, & Insurance; 371
 - Clauses on Decommissioning & Remediation; 371
- Corporate Social Responsibility; 372

PART D: Downstream Oil and Gas Issues, Law and Policy

Refining of Petroleum and Processing of Gas; 381

- Petroleum Refining; 381
- Processing units used in refineries; 382
- Auxiliary Facilities Required in Refineries; 383
- The crude oil distillation unit; 384
- Construction and Operation of Oil Refinery; 385
 - Application for refiner's licence; 386

- Operating and maintaining an oil refinery; 387
- Expiration and Revocation of refiner's licence; 388
- Offences under the Act; 388
- Registers of Licences and Memorials; 391
- Deregulation of the Downstream Petroleum Sector; 391
- Regulation of the Downstream Gas Sector; 392
- Processing of Gas; 396

Marketing of Refined Petroleum and Gas; 397

- Marketing of Refined Petroleum; 397
- Marketing of Processed Gas; 398
 - Gas Pricing Policy; 398
 - Strategic Domestic Sector; 398
 - Strategic Industrial Sector; 398
 - The Commercial Sector; 398
 - The Domestic Gas Supply Obligation; 399
 - The Gas infrastructure Blueprint; 400
 - The Western Gas Transmission System; 400
 - The South-North Gas Transmission System; 400
 - The Interconnector System; 401
 - Domestic Gas Market; 401
- Offtake Agreements; 403
- Toll Agreements; 403

Transportation of Refined Petroleum and Processed Gas; 405

- Transportation of Refined Petroleum; 405
- Transportation of Processed Gas; 405
- The West Africa Gas Pipeline; 406
- Trans-Sahara Gas Pipeline; 407

Exportation of Crude Oil and Gas; 409

- Exportation of Crude Oil; 409
- Exportation of Gas; 410

Importation of Refined Oil and Processed Gas; 413

- Importation of Refined Oil; 413
- Importation of Processed Gas; 414

PART E: Economic, Political, Environmental and Social Impacts of the Nigerian Oil and Gas Industry

Economic and Political Impact of the Oil and Gas Industry; 417

- Economic impact; 417
- Onshore/Offshore Dichotomy Abolition; 418
- Political impact; 419
- Corruption; 420

Environmental and Social Impacts of Oil and Gas Industry on Host Communities; 423

- Niger Delta Region; 423
 - Oil Production and Environmental Pollution; 423
 - Illegal Refineries; 423
 - Oil Spills; 424
 - Gas Flaring; 429
- Reasons for gas flaring in Nigeria; 431
- Litigation; 433
- Oil Producing States litigation against each other and revenue derivation litigation by States against the Federal Government; 433
- Environmental Litigation by Host Communities; 435
 - Onshore Litigation; 435
 - Forum Non Conveniens*; 442
 - Offshore Litigation; 446
 - Bowoto v. Chevron Corp; 448

Topical Issues in the Oil and Gas Industry; 465

- Global warming; 465
- Clean Development Mechanism; 465
- Cap and Trade; 466
- Carbon capture and Storage; 467
- New Trends in Oil and Gas Exploration; 467

-Glossary; 468

- Appraisal Drilling; 468
- Appraisal Well; 468
- Capillary Action; 468
- Contract Close Out; 468
- Christmas Tree; 468
- Condensate; 468
- Drilling Bits; 469
- Decommissioning and Abandonment of oil and gas facilities; 469
- Drilling Mud; 469
- Drill Rod; 469
- Drill Stem; 469
- Drill Stem Test; 469
- Drill String; 469
- Dry/Lean Gas; 469
- Elephant Reserves; 469
- Engineering, Procurement and Construction (EPC); 469
- Enhanced Oil Recovery (EOR) techniques; 470
- Environment Defence Fund; 470
- Flow station; 470
- Flow Station Deferment; 470
- Formation Fluids
- FLNG; 470

- FPSO; 470
- FSO; 470
- Front End Engineering Design (FEED); 470
- Gas Metric Station; 471
- Geochemistry; 471
- Geophysics; 471
- Geological studies; 471
- Geophysical studies; 471
- Hook up; 471
- Jacket; 471
- Lifting the Well; 471
- Log; 471
- Manifold; 471
- Mud Logging; 472
- Natural Gas Liquids (NGL); 472
- Natural Gas Gathering Processing System; 472
- Nephtha; 472
- Off-take; 472
- Oil Contract Life-Cycle; 472
- Oil Production; 472
- Oil Rig; 472
- Oil Terminal; 473
- Pilot Hole; 473
- Plug-back; 473
- Possible Reserves; 473
- Potential Reserves; 473
- Probable Reserves; 473
- Project Management Team (PMT); 473
- Proven Reserves; 473
- Raw Material Gas; 473
- Reserve-to-Production Ratio; 473
- Residual Oil; 473
- Rich Gas; 473
- Site abandonment; 474
- Shot Hole; 474
- Sour gas; 474
- Spot Market; 474
- Stabilization of Crude Oil; 474
- Stock Tank Oil Industry In Place (STOIP); 474
- Sweet Gas; 474
- Take-or-Pay; 474
- Tank Farm; 474
- Well Development; 474
- Well Head; 474
- Well Intervention; 475

- Well Logging; 475
- Well Pad; 475
- Well Stimulation; 475
- Well Workover; 475

Introduction

The word *petroleum* comes from the Greek word *petra* meaning rock and the Greek word *elaion* meaning oil. In the nineteenth century, the term *petroleum* was frequently used to refer to mineral oils produced by distillation from mined organic solids such as cannel coal and later oil shale, and refined oils produced from them.

Petroleum is a naturally occurring, yellow-to-black liquid found in geologic formations beneath the Earth's surface, which is commonly refined into various types of fuels. It consists of hydrocarbons of various molecular weights and other liquid organic compounds. The name *petroleum* covers both naturally occurring unprocessed crude oil and petroleum products that are made up of refined crude oil.

Decayed plants, bacteria and animals remains turn to coal, oil or gas depending on pressure exerted on them. That is why they are called fossil fuels. According to the theory of the biogenic deep origins of hydrocarbons, petroleum is a primordial material of deep origin.¹ By this theory, hydrocarbon compounds generated in the deep asthenosphere of the earth migrates upwards through deep faults into the crust of the earth.² The a biogenic theory of the origin of oil and gas suggest the presence of enormous almost inexhaustible hydrocarbons on earth. It helps petroleum geologists to develop new approaches to petroleum exploration and also help re-examine the structure, size and location of the world's hydrocarbon reserves.

About 80 per cent of the world's readily accessible oil reserves are located in the Middle East, with 62.5% coming from Saudi Arabia, UAE, Iraq, Qatar and Kuwait. A large portion of the world's total oil exists as unconventional sources, such as bitumen in Canada and oil shale in Venezuela. While significant volumes of oil are extracted from oil sands, particularly in Canada, logistical and technical hurdles remain, as oil extraction requires large amounts of heat and water, making its net energy content quite low relative to conventional crude oil. Thus, Canada's oil sands are not expected to provide more than a few million barrels per day in the foreseeable future.

In a strict sense, petroleum includes only crude oil. But in a loose common usage sense, petroleum includes all liquid, gaseous, and solid hydrocarbons. Under surface pressure and temperature conditions, lighter hydrocarbons: methane, ethane, propane

¹ www.linuxdown.net/915373-hydrocarbon-ed. It seems man has been able to access energy in order it is near to him. The order is firewood, coal, oil and gas.. He accessed these as he bores deeper into the earth.

² Ibid.

and butane occur as gases, while pentane and heavier ones are in the form of liquids or solids. However, in an underground oil reservoir the proportions of gas, liquid, and solid depend on subsurface conditions.

An oil well produces predominantly crude oil with some natural gas dissolved in it. Because the pressure is lower at the surface than underground, some of the gas will come out of solution and be recovered or burned as *associated gas* or *solution gas*. A gas well produces predominantly natural gas. However, because the underground temperature and pressure are higher than at the surface, the gas may contain heavier hydrocarbons such as pentane, hexane, and heptane in a gaseous state. At surface conditions, these will condense out of the gas to form natural gas condensate, often shortened as *condensate*. Condensate resembles petrol in appearance and is similar in composition to some volatile light crude oils.

Crude oil varies greatly in appearance depending on its composition. Be this as it may, crude oil is usually black or dark brown. However, it may be yellowish, reddish, or even greenish. In the reservoir, it is usually found in association with natural gas, which being lighter forms a gas cap over the petroleum, and saline water, being heavier than most forms of crude oil, generally sinks beneath it. Crude oil may also be found in semi-solid form mixed with sand and water, as in the Athabasca oil sands in Canada, where it is referred to as crude bitumen.³ Oil sands are called unconventional oil to distinguish them from oil which can be extracted using traditional oil well methods. Between them, Canada and Venezuela have an estimated 3.6 trillion barrels of bitumen and extra-heavy oil, about twice the volume of the world's reserves of conventional oil.⁴

Oil sands are reservoirs of partially biodegraded oil still in the process of escaping and being biodegraded, but they contain so much migrating oil that, although most of it has escaped, vast amounts are still present—more than can be found in conventional oil reservoirs. The lighter fractions of the crude oil are destroyed first, resulting in reservoirs containing an extremely heavy form of crude oil, called crude bitumen in Canada, or extra-heavy crude oil in Venezuela. These two countries have the world's largest deposits of oil sands.

On the other hand, oil shales⁵ are source rocks that have not been exposed to heat or pressure long enough to convert their trapped hydrocarbons into crude oil. Technically speaking, oil shales are not always shales and do not always contain oil, but are fine-grained sedimentary rocks containing an insoluble organic solid called *kerogen*. The *kerogen* in the rock can be converted into crude oil using heat and pressure to simulate natural processes. By such processes, great quantities of pitch,

³ Bitumen is a sticky, black, tar-like form of crude oil which is so thick and heavy that it must be heated or diluted before it will flow.

⁴ oilsands.infomine.com/countries, visited 20/6/2013

⁵ Shales are fine-grained sedimentary rocks composed of mud that is a mixture of clay and tiny fragments of other minerals.

tar, and oil can be extracted from a sort of stone. Although oil shales are found in many countries, the United States has the world's largest deposits. Shale oil may be likened to an unripened mango or pawpaw that is plucked and incubated in a heating vacuum to ripen faster. Oil shales, oil sands are generally considered unconventional oil.

Geologists often refer to the temperature range in which oil forms as an *oil window*. Below the minimum temperature oil remains trapped in the form of kerogen, and above the maximum temperature the oil is converted to natural gas through the process of thermal cracking. Sometimes, oil formed at extreme depths may migrate and become trapped at a much shallower level.

Three conditions must be present for oil reservoirs to form: a source rock rich in hydrocarbon material buried deep enough for subterranean heat to cook it into oil, a porous and permeable reservoir rock for it to accumulate in, and a cap rock (seal) or other mechanism that prevents it from escaping to the surface. Within these reservoirs, fluids will typically organize themselves like a three-layer cake with a layer of water below the oil layer and a layer of gas above it. The different layers vary in size between reservoirs. Because most hydrocarbons are less dense than rock or water, they often migrate upward through adjacent rock layers until either reaching the surface or becoming trapped within porous rocks known as reservoirs by impermeable rocks above. However, the process is influenced by underground water flows, causing oil to migrate hundreds of kilometres horizontally or even short distances downward before becoming trapped in a reservoir. When hydrocarbons are concentrated in a trap, an oil field forms, from which the liquid can be extracted by drilling and pumping.

The petroleum industry generally classifies crude oil by the geographic location it is produced in. For instance, there is the West Texas Intermediate oil, Brent oil, and Oman oil based on where they are produced. Oil is also classified on the basis of its API gravity e.g. bonny light. Crude oil may be considered *light* if it has low density or *heavy* if it has high density; and it may be referred to as *sweet* if it contains relatively little sulphur or *sour* if it contains substantial amounts of sulphur.

Light crude oil is more desirable than *heavy* oil since it produces a higher yield of petrol, while *sweet* oil commands a higher price than *sour* oil because it has fewer environmental problems and requires less refining to meet sulphur standards imposed on fuels in consuming countries. Light and sweet oil is oil largely free of sulphur and is much easier to refine.⁶

Each crude oil has unique molecular characteristics which are understood by the use of crude oil assay analysis in petroleum laboratories. Below are conservative estimates of proven oil reserves in oil bearing states:

⁶ Oil reservoirs in the Niger Delta are reputed to be small. This text wonders if there is a link between the size of a reservoir and density of the oil in the reservoir. Do the small Niger Delta reservoirs in the Niger Delta subject the oil in them to excessive pressure that produces light oil?

i.	OPEC	-	-	-	1, 112, 448 – 1,199, 707 trillion barrels of crude oil
ii.	Venezuela	-	-	-	297, 570 billion barrels
iii.	Saudi Arabia	-	-	-	267, 910
iv.	Canada	-	-	-	173, 625 – 175, 200
v.	Iran	-	-	-	154, 580
vi.	Iraq	-	-	-	151, 167 – 154, 580
vii.	Kuwait	-	-	-	103, 998 – 111, 500
viii.	United Arab Emirates	-	-	-	97, 800
ix.	Russia	-	-	-	60,003 – 116, 000
x.	Libya	-	-	-	47, 102 – 48, 014
xi.	Kazakhstan	-	-	-	30, 002 – 39, 800
xii.	Nigeria	-	-	-	37, 200
xiii.	China	-	-	-	25, 585
xiv.	Qatar	-	-	-	25, 382
xv.	United States	-	-	-	23, 267
xvi.	Brazil	-	-	-	13, 986
xvii.	Algeria	-	-	-	12, 200
xviii.	Angola	-	-	-	10, 470
xix.	Mexico	-	-	-	10, 264
xx.	India	-	-	-	9, 043
xxi.	Ecuador	-	-	-	8, 240
xxii.	Azerbaijan	-	-	-	7, 000
xxiii.	European Union	-	-	-	6, 700
xxiv.	Sudan	-	-	-	6, 700
xxv.	Malaysia	-	-	-	5, 800
xxvi.	Norway	-	-	-	5, 321 – 6, 700
xxvii.	Oman	-	-	-	5, 500
xxviii.	Ghana	-	-	-	5, 000
xxix.	Egypt	-	-	-	4, 500
xxx.	Vietnam	-	-	-	4, 400
xxxi.	Australia	-	-	-	4, 158
xxxii.	Indonesia, -	-	-	-	3, 990 – 4, 118
xxxiii.	Gabon	-	-	-	3, 700
xxxiv.	Argentina	-	-	-	2, 805
xxxv.	Yemen	-	-	-	1,194
xxxvi.	United Kingdom	-	-	-	2, 800
xxxvii.	Syria	-	-	-	2, 500
xxxviii.	Colombia	-	-	-	2, 800
xxxix.	Congo	-	-	-	1,940
xl.	Equatorial Guinea	-	-	-	1, 705
xli.	Chad	-	-	-	1, 500

xl.ii.	Peru -	-	-	-	1, 240
xl.iii.	Brunei	-	-	-	1, 200
xl.iv.	Ireland	-	-	-	1, 000 – 1, 612
xl.v.	Uganda -	-	-		1, 000
xl.vi.	Denmark -	-	-	-	900
xl.vii.	Trinidad and Tobago -	-	-		830
xl.viii.	Romania	-	-	-	650
xl.ix.	Turkmenistan -	-	-		600
l.	Uzbekistan	-	-	-	594
li.	East Timor	-	-	-	554
lii.	Bolivia -	-	-	-	465
liii.	Thailand	-	-	-	442
liv.	Tunisia -	-	-	-	425
lv.	Italy -	-	-	-	400
lvi.	Ukraine -	-	-	-	395
lvii.	Pakistan	-	-	-	313
lviii.	Netherlands	-	-		310
lix.	Germany	-	-	-	276
lx.	Turkey	-	-	-	- 262
lxi.	Cameroon	-	-	-	200
lxii.	Albania	-	-	-	199
lxiii.	Belarus	-	-	-	198
lxiv.	Bangladesh	-	-	-	178
lxv.	Papua New Guinea	-	-		170
lxvi.	Philippines	-	-	-	168
lxvii.	New Zealand	-	-		166
lxviii.	Chile -	-	-		150
lxix.	Spain -	-	-		150
lxx.	Bahrain	-	-	-	125
lxxi.	Cuba -	-	-		124
lxxii.	France	-	-	-	101
lxxiii.	Ivory Coast	-	-	-	100
lxxiv.	Mauritania	-	-	-	100
lxxv.	Poland	-	-	-	96
lxxvi.	Austria	-	-	-	89
lxxvii.	Guatemala	-	-	-	83
lxxviii.	Suriname	-	-	-	79
lxxix.	Serbia	-	-	-	77
lxxx.	Croatia	-	-	-	66
lxxxi.	Burma -	-	-	-	50
lxxxii.	Japan -	-	-		44
lxxxiii.	Kyrgyzstan	-	-		40

lxxxiv.	Georgia	-	-	-	35
lxxxv.	Hungary	-	-	-	26
lxxxvi.	Bulgaria	-	-	-	15
lxxxvii.	South Africa	-	-	-	15
lxxxviii.	Czech Republic	-	-	-	15
lxxxix.	Lithonia	-	-	-	12
xc.	Tajikistan	-	-	-	12
xc.	Greece	-	-	-	10
xcii.	Slovakia	-	-	-	9
xciii.	Benin	-	-	-	8
xciv.	Belize	-	-	-	7
xcv.	Taiwan	-	-	-	2
xcvi.	Israel	-	-	-	2
xcvii.	Barbados	-	-	-	2
xcviii.	Jordan	-	-	-	1
xcix.	Morocco	-	-	-	0.7
c.	Ethiopia	-	-	-	0.4
ci.	Bahamas	-	-	-	0.1 ⁷

The above statistics are 2013 conservative statistics. Depending on rate of exploitation and increase in proven reserves by exploration, the reserves of a nation may go up or down in subsequent years. As a matter of fact, hardly is there any nation's reserve that is the same now as it was when the above statistics were taken.

From the above statistics, Nigeria's conservative proven oil reserve as at the time these statistics were taken by the U.S Energy Information Administration were thirty-seven billion two hundred thousand barrels. From its thirty-seven billion two hundred thousand barrels of proven oil reserves, Nigeria produces about two million barrels per day.⁸ Nigeria is the largest producer of light crude (sweet oil) in OPEC.⁹

Natural Gas

Like oil, natural gas is a fossil fuel.¹⁰ It is made up of several gases such as ethane, butane, propane, carbon dioxide, nitrogen, helium and hydrogen sulphide. It is important to note the difference between natural gas and liquefied petroleum gas. Natural gas is natural. If a well is sunk in the right place, natural gas flows out of it. Natural gas is mostly composed of methane. Liquefied Petroleum Gas on the other hand is a product of crude oil distillation. It contains mostly propane. Propane has a very nice property that when compressed it easily condenses into a liquid which

⁷ See U.S 2013 Energy Information Administration statistics.

⁸ www.globaoil.com

⁹ Ibid

¹⁰ Fossil fuel may be contrasted from biogas produced by swamps, swage sludge and cattle manure.

means that it is much easier to store it in a tank than natural gas which does not compress easily. Liquefied Petroleum Gas (LPG) otherwise known as cooking gas is a hydrocarbon mixture of propane and butane used as a fuel in heating appliances and running vehicles. It can be obtained from natural gas liquid and condensates through mechanical refrigeration. It also comes as a by-product from the refineries. Liquefied Petroleum Gas is fast replacing chlorofluorocarbons (CFCs) as an aerosol propellant. Liquefied Petroleum Gas is preferred to chlorofluorocarbons because it does not deplete the ozone layer the way CFCs do. In principle, the Kaduna refinery was meant to supply the whole country with petroleum gas while other refineries produce for export. In practice however, the Kaduna refinery has not been able to supply the whole country; neither had the other refineries been able to produce for export.

Shale gas is an unconventional gas like shale oil. It is gas yet to complete the process of becoming gas when it is plucked like an unripened mango or pawpaw and incubated to a gas state.

A 2013 conservative estimate of proven world gas reserves put world gas reserves at: 187, 300, 000,000,000. Below are a 2013 country by country conservative estimates of proven gas reserves:

i.	Iran-	-	33, 600, 000,000,000	trillion cubic feet
ii.	Russia	-	32,900,000,000,000	
iii.	Qatar	-	25,100,000,000,000	
iv.	Turkmenistan-	-	17,500,000,000,000	
v.	United States-	-	8,500,000,000,000	
vi.	Saudi Arabia -	-	8,200,000,000,000	
vii.	Venezuela -	-	5,524,500,000,000	
viii.	Nigeria	-	5,246,000,000,000	
ix.	Algeria	-	4,502,000,000,000	
x.	Australia	-	3,825,000,000,000	
xi.	Iraq	-	3,600,000,000,000	
xii.	China	-	3,100,000,000,000	
xiii.	Indonesia -	-	3,001,000,000,000	
xiv.	Malaysia	-	2,350,000,000,000	
xv.	Norway	-	2,313,000,000,000	
xvi.	United Arab Emirates-	-	2,250,000,000,000	
xvii.	Kazakhstan -	-	1,900,000,000,000	
xviii.	Uzbekistan -	-	1,841,000,000,000	
xix.	Kuwait	-	1,798,000,000,000	
xx.	Canada	-	1,754,000,000,000	
xxi.	Egypt	-	1,656,000,000,000	
xxii.	Libya	-	1,539,000,000,000	
xxiii.	Netherlands	-	1,416,000,000,000	
xxiv.	Ukraine	-	1,104,000,000,000	
xxv.	India	-	1,075,000,000,000	
xxvi.	Oman	-	849,500,000,000	
xxvii.	Azerbaijan	-	849,500,000,000	
xxviii.	Pakistan	-	840,200,000,000	

xxix. Lebanon	-	-	750,400,000, 000
xxx. Romania	-	-	726,000,000, 000
xxxi. Vietnam	-	-	680,000, 000, 000
xxxii. Yemen	-	-	478,500, 000, 000
xxxiii. Trinidad and Tobago	-	-	436,100, 000, 000
xxxiv. Argentina	-	-	398,400, 000, 000
xxxv. Brunei	-	-	390,800, 000, 000
xxxvi. Brazil	-	-	364,200, 000, 000
xxxvii. Mexico	-	-	359,700, 000, 000
xxxviii. Thailand	-	-	342,000, 000, 000
xxxix. Peru	-	-	334,100, 000, 000
xl. United Kingdom	-	-	292,000, 000, 000
xli. Burma	-	-	283,200, 000, 000
xlii. Angola	-	-	271,800, 000, 000
xliii. Israel	-	-	271,000, 000, 000
xliv. Syria	-	-	240,700, 000, 000
xlv. Papua New Guinea	-	-	226,500, 000, 000
xlvi. Timor-Leste	-	-	200,000, 000, 000
xlvii. Bangladesh	-	-	195,400, 000, 000
xlviii. Germany	-	-	175, 600, 000, 000
xliv. Poland	-	-	164, 800, 000, 000
l. Cameroun	-	-	135, 100, 000, 000
li. Mozambique	-	-	127, 400, 000, 000
lii. Colombia	-	-	112, 000, 000, 000
liii. Philippines	-	-	108, 700, 000, 000
liv. Chile	-	-	97, 970, 000, 000
lv. Bahrain	-	-	92, 030, 000, 000
lvi. Congo	-	-	90, 610, 000, 000
lvii. Sudan	-	-	84, 950, 000, 000
lviii. Cuban	-	-	70, 790, 000, 000
lix. Italy	-	-	69, 830, 000, 000
lx. Tunisia	-	-	65, 130, 000, 000
lxi. Namibia	-	-	62, 290, 000, 000
lxii. Denmark	-	-	61, 300, 000, 000
lxiii. Rwanda	-	-	56, 630, 000, 000
lxiv. South Korea	-	-	50, 000, 000, 000
lxv. Afghanistan	-	-	49, 550, 000, 000
lxvi. Serbia	-	-	48, 140, 000, 000
lxvii. Equatorial Guinea	-	-	36, 810, 000, 000
lxviii. New Zealand	-	-	33, 980, 000, 000
lxix. Croatia	-	-	30, 580, 000, 000
lxx. Ivory Coast	-	-	28, 320, 000, 000
lxxi. Mauritania	-	-	28, 320, 000, 000
lxxii. Gabon	-	-	28, 320, 000, 000
lxxiii. Ethiopia	-	-	24, 920, 000, 000
lxxiv. Austria	-	-	24, 800, 000, 000
lxxv. Ghana	-	-	22, 650, 000, 000

lxxvi. Japan	-	-	-	20,900,000,000
lxxvii. Slovakia	-	-	-	14,160,000,000
lxxviii. Ireland	-	-	-	9,911,000,000
lxxix. Georgia	-	-	-	8,495,000,000
lxxx. Hungary	-	-	-	8,098,000,000
lxxxi. Ecuador	-	-	-	7,985,000,000
lxxxii. France	-	-	-	7,079,000,000
lxxxiii. Tanzania	-	-	-	6,510,000,000
lxxxiv. Taiwan	-	-	-	6,229,000,000
lxxxv. Turkey	-	-	-	6,088,000,000
lxxxvi. Jordan	-	-	-	6,031,000,000
lxxxvii. Bulgaria	-	-	-	5,663,000,000
lxxxviii. Tajikistan	-	-	-	5,663,000,000
lxxxix. Somalia	-	-	-	5,663,000,000
xc. Kyrgyzstan	-	-	-	5,663,000,000
xc. Czech Republic	-	-	-	3,072,000,000
xcii. Guatemala	-	-	-	2,960,000,000
xciii. Belarus	-	-	-	2,832,000,000
xciv. Spain	-	-	-	2,548,000,000
xcv. Morocco	-	-	-	1,501,000,000
xcvi. Benin	-	-	-	1,133,000,000
xcvii. Congo	-	-	-	991,100,000
xcviii. Greece	-	-	-	991,100,000
xcix. Albania	-	-	-	849,500,000
c. Barbados	-	-	-	113,300,000
ci. South Africa	-	-	-	27,160,000
cii. Macau	-	-	-	300,000 ¹¹

The above statistics are 2013 statistics recorded in the World Factbook. Like with petroleum, proven gas reserves are not static. They increase or decrease based on exploration that discovers more reserves or exploitation that decreases existing reserves. Based on this fact, hardly is any nation's gas reserves the same today as are recorded against it in the above statistics.

It is surprising that with the vast gas resources spread across the globe, fifteen nations account for 84% of natural gas extraction world-wide.¹² Unavailability of gas gathering technology, gas processing technology, gas storage and gas transportation facilities in part are responsible for this state of affairs. When more gas possessing nations turn the tide against all these inhibitions, gas markets would become more saturated with gas products and this will eventually drive down gas prices – something gas producing nations will not like.

By the above statistics, Iran has the largest resources of natural gas (17.9% of the world total). However, Qatar has the world's largest gas field.

¹¹ See the World Factbook 2011

¹² www.energysys.com/reserves-reporting

Giant Oil and Gas Fields

The world's 932 giant oil and gas fields are considered oil and gas fields with 500 million barrels of ultimately recoverable oil or gas equivalent.¹³ Geoscientists believe these giant oil and gas fields account for 40 per cent of the world's petroleum reserves. The giant oil and gas fields are clustered in 27 regions of the world, with the largest clusters in the Persian Gulf and Western Siberian Basin. The past three decades reflect declines in discoveries of giant fields.¹⁴ The 2000–2011 decade however, reflected an upturn in discoveries of giant oil and gas fields.¹⁵ That decade was the third best decade for discovery of giant oil and gas fields in the 150 year history of modern oil and gas exploration.¹⁶

According to analysis led by Paul Mann of the University of Houston, almost all of the 932 giant oil and gas fields cluster within 27 regions, or about 30 per cent of the earth's land surface. Since 2003, Mann and his colleagues M.K. Horn and Ian Cross have tracked giant oil and gas fields on a map that highlights the tectonic and sedimentary basin maps of the 27 key regions.¹⁷

Geophysicists and exploration geologists who look for oil and gas fields classify the subsurface characteristics, or tectonic setting of geological structures that contain hydrocarbons. Any one oil and gas field may reflect influences from multiple geological periods and events, but geoscientists often attempt to characterize a field based on the dominant geological event that influenced the structure's ability to trap and contain oil and gas in recoverable quantities.

Majority of the world's giant oil and gas fields exist in two characteristic tectonic settings—passive margin¹⁸ and rift environments.¹⁹ Passive margins are found along the edges of major ocean basins, such as the Atlantic coast of Brazil where oil and gas has been located in large quantities in the Campos basin. Rifts are oceanic ridges formed when tectonic plates separate and a new crust is created. The North Sea is an example of a rift setting associated with prodigious hydrocarbon reserves. Geoscientists theorize that both zones are especially conducive to forming giant oil and gas fields when they are distant from active tectonic areas. Stability appears to be conducive to trapping and retaining hydrocarbons under the subsurface.²⁰

¹³ Halbouty M, *Giant Oil and Gas Fields of the Decade*, 2007

¹⁴ Mann P, *Emerging Trends from 69 Giant Oil and Gas Fields Discovered from 2000 – 2006* a presentation at the Annual Meeting of the American Association of Petroleum Geologists, 2007

¹⁵ www.datapages.com/giant_oil_and_gas_fields visited 9/8/2013

¹⁶ Brown David, *World Study of Giant Fields*, 2012

¹⁷ Mann P, Gahagan L, and Gordon M, *Tectonic Setting of the World Giant Oil and Gas Fields* oct. 2001

¹⁸ *Ibid*. A passive margin is the transition between oceanic and continental crust which is not an active plate margin. It is constructed by sedimentation above an ancient rift, now marked by transitional crust.

¹⁹ *Ibid*. A rift environment is an environment with a huge crack on the earth surface often associated with volcanoes. Rifts are caused by tectonic forces. East Africa, particularly Kenya being in a rift valley, is it possible that it has undiscovered giant oil and gas fields?

²⁰ *Ibid*

Four other common tectonic settings, including collisional margins, strike-slip margins, and subduction margins, are associated with the formation of giant oil and gas fields, though not to the dominant extent of passive margin and rift settings.

Recent and Future Giant Oil and Gas Fields

Based on the locations of past giant oil and gas fields, Mann and his colleagues predicted new discoveries of giant oil and gas fields would mainly be made in passive margins and rift environments, especially in deepwater basins. They also predicted that existing areas that have produced giant fields would be likely targets for new discoveries of *elephant fields*, as giant oil and gas fields are sometimes known in the oil and gas industry. Data from 2000–2007 reflects the accuracy of their predictions. The 79 new giant oil and gas fields discovered from 2000–2007 tended to be located in similar tectonic settings as the previously documented giants from 1868–2000, with 36 per cent along passive margins, 30 per cent in rift zones or overlying sags (structures associated with rifts), and 20 per cent in collisional zones.²¹

Despite a recent uptick²² in the number of giant oil and gas fields, discovery of giant oil and gas fields appears to have peaked in the 1960s and 1970s. Looking to the future, geoscientists foresee a continuation of the recent trend of discovering more giant gas fields than oil fields. Two major continental regions—Antarctica and the Arctic—remain largely unexplored. Beyond them, however, trends suggest that remaining giant fields will be discovered in *in-fill* areas where past giants have been clustered and in frontier, or new areas that correspond to the predominant tectonic settings of past giant oil and gas fields.²³

Giant Field Production Properties and Behaviour

Comprehensive analysis of oil production from a majority of the world's giant oil fields has shown their enormous importance to global oil production.²⁴ For instance, the 20 largest oil fields in the world alone account for roughly 25% of the total oil production. The majority of the world's giants are already in decline and this will have dramatic consequences for future oil supply. Further analysis shows that giant oil fields typically reach their maximum production before 50% of the ultimate recoverable volume has been extracted.²⁵ A strong correlation between depletion and the rate of decline was also found in that study, indicating that much new technology has only been able to temporarily decrease depletion at the expense of rapid future decline. This is exactly the case in the Cantarell Field.

²¹ Ibid. A collisional zone is a convergence point tectonic plates meet.

²² A small increase in something, especially in stock or bond prices.

²³ Ibid

^{24,24} Hook M, Hirsch R, Aleklett K, Giant Oilfields Decline Rate and their Influence on World Oil Production, 2009

²⁵ Hook M, Soderbergh B, Jakobsson K, Aleklett K, The Evolution of Giant Oilfield Production Behaviour, Natural Resources Research Volume 18, 2009

PART A

Oil and Gas Policy, Regulatory and Operational Institutions

Chapter 1

Policy and Regulatory Institutions

The President

By section 2 (1) of the NNPC Act, the Nigerian President may appoint an alternate chairman for the NNPC Board. The 1996 Marginal Field Decree empowers the Nigerian president to farm out marginal fields to indigenous oil companies if the oil field has been lying redundant for a period of time exceeding 10 years.¹ An owner of an oil bloc is also entitled to farm it out to another person subject to the approval of the President. Under section 191 of the Petroleum Industry Bill (PIB), the President has power to grant licences and leases in special circumstances. Even where the Minister is the designated authority to grant licences and leases, the President may nevertheless grant licences and leases.²

Under the PIB, the President on the recommendation of the Minister of Petroleum constitutes the Boards of the Upstream Petroleum Inspectorate and the Downstream Petroleum Regulatory Agency.³ He shall with recommendation by the Petroleum Minister constitute the Board of the Petroleum Technology Development Fund, the Petroleum Equalization Fund and the National Petroleum Assets Management Corporation.⁴ He appoints the Director General of the Inspectorate and the Agency and can fire them for good reason.⁵

The Minister

By section 1 (3) of the NNPC Act, the Minister of Petroleum is the Chairman of the NNPC Board. The Minister of Petroleum enjoys far reaching powers over petroleum matters. Most significant activities or operations in the oil and gas sector require licence and the Minister of Petroleum is the authority that grants the licence. For instance, exploration, prospecting and mining of oil and gas require licences. The

¹ Section 2 of the Marginal Field Decree, 1996

² See Section 191 of the 2012 PIB. This provision appears to vest prerogative powers in the President and to constitute him into a fountain of licences and leases from whom the Minister of Petroleum Resources derives his power to grant licences and leases. As such fountain, the President can grant licences and leases like the Minister. But this is a flawed supposition. The President is no fountain. The fountain from which the Minister derives his power to grant licences and leases is the law.

³ See sections 17(2) and 47 (2) of the PIB

⁴ See Sections 77, 101 and 131 of the PIB

⁵ See sections 26 and 56 of the PIB

Minister grants the licences.⁶ Laying of pipelines, setting up a refinery, also require licences. Importation, sell or distribution of petroleum requires licence and it is the Minister that grants them.⁷ Permits however are in the main granted by the Department of Petroleum Resources.⁸

Under the 1969 Petroleum Act, the Minister of Petroleum may by order published in the *Federal Gazette* fix the prices at which petroleum products or any particular class or classes thereof may be sold in Nigeria or in any particular part or parts thereof.⁹ The Minister may by notice in writing require any person appearing to him to have or to be likely to have access to information which is relevant to the fixing of any prices of the kind mentioned in subsection (1) of this section to supply that information to the Minister, and any person so required shall be legally bound to use his best endeavours to supply the information accordingly.

In the event of a state of national emergency or war the Minister shall have the right of pre-emption of all petroleum and petroleum products obtained, marketed or otherwise dealt with under any licence or lease granted under the Act.¹⁰ The Minister may advise the President to declare a state of national emergency if the Minister is satisfied that, as a result of the low level of availability of petroleum and petroleum products there is an actual breakdown of public order and public safety in the Federation or any part thereof; or there is a clear and present danger of actual breakdown of public order or public safety in the Federation or any part thereof. The President may, on receiving the advice of the Minister declare a state of national emergency under the provisions of the Constitution of the Federal Republic of Nigeria 1999 if he is satisfied that it is necessary to do so.¹¹

Under the PIB, the Minister of Petroleum is charged with the responsibility of formulating, determining and monitoring government policy on the petroleum industry.¹² He is also required to exercise general supervisory functions over the affairs and operations of the industry, report developments in the industry to government, advice the government on all matters pertaining to the industry, represent the nation at meetings of international organizations primarily concerned with the petroleum industry; negotiate and execute international petroleum treaties and agreements with other sovereign countries, international organizations and other similar bodies on behalf of the government; on advice of the Petroleum Inspectorate, grant, amend, renew, extend or revoke upstream petroleum licences and leases; on advice of the

⁶ Ibid

⁷ See section 4 (1) of the Petroleum Act.

⁸ See section 15 of the PIB in respect of the Upstream Petroleum Inspectorate which will replace DPR upstream and section 145 (1) of the PIB in respect of the Downstream Petroleum Regulatory Agency which will replace DPR downstream.

⁹ See section 6 of the 1969 Petroleum Act.

¹⁰ See section 7 of the 1969 Petroleum Act

¹¹ Ibid section 7 (5)

¹² See section 6 of the 2012 Petroleum Industry Bill.

Downstream Petroleum Regulatory Agency, grant, amend, renew, extend or revoke downstream petroleum licences, advise the President on appointment of the Director-General for the Upstream Petroleum Inspectorate and the Downstream Petroleum Regulatory Agency, and have access at all times to areas covered by licences, permits and leases.¹³

Under the PIB, the Minister has powers to make regulations needed to give effect to the Act.¹⁴ Before making regulations however, he is required to conduct a public inquiry. For purposes of conducting the public inquiry, the Minister is required to publish in at least two national newspapers notice of:

- i. The fact that he is holding the inquiry;
- ii. Invitation to members of the public to participate in the inquiry;
- iii. The venue and period during which the inquiry is to be held;
- iv. The nature of the matter to which the inquiry relates;
- v. The matter the Minister will like the submissions to deal with;
- vi. The form members of the public are to make submissions to the Minister on the subject matter of the inquiry;
- vii. The period of public notice for the commencement of the inquiry, which shall not be less than twenty-one days;
- viii. The address or addresses to which the submissions may be sent.¹⁵

The above provision of the Petroleum Industry Bill aims at advancing and promoting transparency in the handling of petroleum matters by the Minister. Beyond, achieving transparency, implementation of this provision by the Minister will promote public participation in affairs of the oil industry. Petroleum Pipeline Regulations, Petroleum Drilling and Production Regulations are some of the Regulations that the Minister before making any of them should carry out a public inquiry.

Where the Minister by exigencies of circumstances makes any Regulations without first conducting a public inquiry, the Regulations so made shall be valid only for twelve months, unless confirmed after a public inquiry.¹⁶

To help the Minister perform his duties under the PIB, the Bill established the Petroleum Technical Bureau in the office of the Minister.¹⁷ The Bureau made up of professionals with expertise in the upstream and downstream petroleum sector is required to:

- i. Provide technical and professional support to the Minister on matters relating to the petroleum industry;

¹³ See section 6 of the PIB

¹⁴ Ibid section 8

¹⁵ Ibid. 8 (4)

¹⁶ Ibid Section 8 (6) and (7)

¹⁷ Ibid Section 10

- ii. Assist the Minister in the formulation and development of strategies to implement government policy on the petroleum industry;
- iii. Assist the Minister in monitoring the implementation of government policy in the petroleum industry;
- iv. Identify opportunities and increase information about the petroleum resources base within all frontier acreages in Nigeria;
- v. Develop exploration strategies and portfolio management for the exploration of all frontier acreages in Nigeria;
- vi. Undertake studies, analyze and evaluate all unassigned frontier acreages in Nigeria, and undertake activities to stimulate the interest of local and international oil and gas companies in exploration of the frontier basins of Nigeria to increase the nation's petroleum resources.¹⁸

Generally, the function of the Minister is more of policy-making than regulatory. Policy determines the granting of licences and leases and it is the Minister that determines this policy. Regulatory functions are mainly performed by the Department of Petroleum Resources. (DPR) Ministerial policies in the form of licences and leases are enforced by DPR the regulator of the oil and gas industry.

The National Council of Ministers

The National Council of Ministers made up of ministers of the federation appoints three members of the NNPC Board of Directors,¹⁹ and also appoint the Group Managing Director of the Corporation.²⁰ Section 7 (5) of the NNPC Act requires the Corporation to submit to the Council of Ministers, not later than three months before the end of each financial year, estimates of its expenditure and income relating to the in-coming year. The corporation shall not without the approval of the Council of Ministers, borrow any sum of money that exceeds such amount as is for the time being specified by the Council of Ministers.²¹ The National Council of Ministers may issue to the Corporation such directions as it may think necessary as to the disposal of any surplus funds of the Corporation, and subject to any such direction, the Corporation may invest its funds and maintain a general reserve.²²

The NNPC Board

The NNPC Act established a Board of Directors for the Corporation made up of the Director General Federal Ministry of Finance and Economic Development, the Managing Director of the Corporation, and three persons appointed by the National Council of Ministers being persons who by reason of their ability, experience or

¹⁸ Ibid

¹⁹ See section 1 (2) (c) of the NNPC Act

²⁰ See section 3 (1) of the NNPC Act

²¹ See Section 8 (2) of the NNPC Act

²² Ibid section 9

specialized knowledge of the oil industry or of business or professional attainments are capable of making useful contributions to the work of the Corporation.²³ The NNPC Board of Directors carries out on behalf of the Corporation the functions assigned to it by the NNPC Act. These functions include:

- i. Exploring and prospecting for, working, wining or otherwise acquiring, possessing and disposing of petroleum;
- ii. Refining, processing and generally engaging in the handling of petroleum for the manufacture and production of petroleum products and its derivatives;
- iii. Purchasing and marketing petroleum, its products and by-products;
- iv. Providing and operating pipelines, tanker-ships or other facilities for the carriage or conveyance of crude oil, natural gas and their products and derivatives, water and any other liquids or other commodities related to the Corporations operations;
- v. Constructing, equipping and maintaining tank farms and other facilities for the handling and treatment of petroleum and its products and derivatives;
- vi. Carrying out research in connection with petroleum or anything derived from it and promoting activities for the purpose of turning to account the result of such research;
- vii. Doing anything required for the purpose of giving effect to agreements entered into by the Federal Government with a view to securing participation by the Government or the Corporation in activities connected with petroleum;
- viii. And generally engaging in activities that would enhance the petroleum industry in the overall interest of Nigeria.²⁴

To discharge the above functions, the Corporation acting through its

Board of Directors has powers to:

- i. Hold, manage, alienate moveable and immovable property; purchase, take over or otherwise acquire the assets, businesses, properties, privileges, contracts, rights, obligations and liabilities of any other company, firm or person in furtherance of any business engaged in by the Corporation;
- ii. Enter into contracts or partnership with any company, firm or person which in the opinion of the Corporation will facilitate the discharge of its functions under the Act;
- iii. Establish subsidiaries for the discharge of its functions as the Corporation may determine;
- iv. And train managerial, technical and such other staff for the purpose of running its operations and for the petroleum industry in general.²⁵

²³ Ibid section 1 (2)

²⁴ Ibid section 5 (1)

²⁵ Ibid section 6 (1). Notwithstanding the provision of this section, any contract relating to any project of a value in excess of N5 million or such higher limit as may be directed from time to time by the National

Petroleum Inspectorate

Section 10 (1) of the NNPC Act established the Petroleum Inspectorate as an integral part of the NNPC. The Minister of Petroleum may delegate to the alternate chairman, where one is appointed, or to the Petroleum Inspectorate the powers conferred on him by the Oil Pipelines Act, the Petroleum Act or any other enactment as he may deem necessary.²⁶ Accordingly, the Minister of Petroleum may delegate to the Petroleum Inspectorate the power of:

- i. Issuing permits and licences for all activities connected with Petroleum exploration and exploitation and the refining, storage, marketing, transportation and distribution thereof, and
- ii. Acting as the agency for the enforcement of the provisions of the relevant Act and any relevant regulations made thereunder by the Minister.²⁷

Any regulatory function conferred on the Minister shall from the date the Minister delegates his powers to the Inspectorate be deemed to have been conferred on the Inspectorate and can be discharged by it.²⁸ Section 12 (1) of the Petroleum Act entitles the Minister of Petroleum to delegate his powers under the NNPC Act. It provides that, except the power to make orders and regulations, the Minister of Petroleum may by writing under his hand delegate to another person any power conferred on him under the Act. By this provision, the Minister may delegate any power to the Petroleum Inspectorate except the power to make orders and regulations.

Department of Petroleum Resources (DPR)

The main reason of setting up the Department of Petroleum Resources (DPR) is for it to serve as the regulator of the petroleum industry while NNPC serves as the operator. In practice, however, DPR in some cases exists as a rival to the NNPC. There is always some kind of cold war between the Director of DPR and the Group Managing Director of NNPC. The Director of DPR on some occasions tries to claim superiority over the Group Managing Director of NNPC.

By law, DPR is a regulatory institution while NNPC is mainly an operational institution and only marginally a regulatory institution. Rivalry between NNPC and DPR will substantially be obviated if each institution sticks to its stipulated role and does not meddle with the role of the other. This is what DPR has been unable to do leading to unnecessary conflict and rivalry. However, the institution is hardly to be

Council of Ministers shall be referred by the Corporation to the National Council of Ministers for approval before the award before such contract is awarded by the Corporation.

²⁶ Ibid section 10 (2)

²⁷ Ibid

²⁸ Ibid section 10 (2) (c)

blamed for this state of affairs. Sweeping functions conferred on the department by law are largely to blame. By law, DPR is required to:

- i. Supervise all petroleum industry operations carried out under licences and leases to ensure compliance with law;
- ii. Monitor the petroleum industry to ensure operations are in line with national goals and aspirations including those relating to Nigerian content;
- iii. Enforce safety regulations and ensuring that operations conform with national and international best oil field practices;
- iv. Maintain records on petroleum industry operations particularly on matters relating to petroleum reserves, production, export, licences and leases as well as rendering regular reports on these to the government;
- v. Advise government and relevant government agencies on technical matters and public policies which may have an impact on administration and control of petroleum;
- vi. Process all applications for licences to ensure compliance with laid down guidelines before making recommendations to the Minister of Petroleum;
- vii. Ensure timely and adequate payments of all rents and royalties as and when due.²⁹

The above functions of DPR cover all activities of the petroleum industry, which include geological and geophysical activities, drilling, production, export, refining, petrochemicals, transportation and distribution.

Reg. 44 of the Petroleum Drilling and Production Regulations made pursuant to the 1969 Petroleum Act vest on the Director of Petroleum Resources general powers to give such directions as may in his opinion be necessary, from time to time, to ensure the proper exploitation of petroleum and to encourage good conservation practices in any licensed or leased lands; and the licensee or lessee shall comply with any such directions which affect him.

Any person or persons authorized by the Director of Petroleum Resources shall be entitled at all reasonable times to enter into and upon any part of an area covered by an oil prospecting licence or oil mining lease for the purpose of checking or examining anything the licensee or lessee is authorized by the Petroleum Act and regulations thereto to perform, install, construct or take possession of; or to inspect and makes abstracts or copies of any logs, records, maps, accounts or other documents, which the licensee or lessee is required to make or keep in accordance with the Act and the regulations.

Under the Petroleum Industry Bill, DPR is replaced by two institutions: The Upstream Petroleum Inspectorate (UPI) responsible for upstream petroleum matters,³⁰ and the Downstream Petroleum Regulatory Agency (DPRA) saddled with

²⁹ [dprnigeria.org.ng/aboutdpr/functions of dpr](http://dprnigeria.org.ng/aboutdpr/functions%20of%20dpr)

³⁰ See section 13 of the PIB

the responsibility of regulating activities of oil operators in the downstream oil sector.³¹ UPI is a body corporate with perpetual succession and powers to enter into contracts, incur obligations, acquire, hold, mortgage and purchase property.³²

Section 13 (3) specifically provides that the Upstream Petroleum Inspectorate shall be vested with the assets, liabilities and functions relating to the upstream petroleum sector hitherto vested in the Department of Petroleum Resources. All acreage for exploration development and production of petroleum in Nigeria are to be administered by the UPI.³³ Also title to all data related to upstream petroleum sector vested in the federal government would be administered by the UPI.³⁴ The UPI has the following functions:

- i. Administering and enforcing policies, laws and regulations relating to all aspects of upstream petroleum operations;
- ii. Ensuring and enforcing compliance with the terms and conditions of leases, licences, permits and other authorizations in respect of upstream petroleum operations;
- iii. Setting and enforcing approved standards for design procurement, construction, operation and maintenance for all plant, installations and facilities pertaining upstream petroleum operations
- iv. Ensuring adherence to national and international environmental and other technical standards by all persons involved in all upstream petroleum operations;
- v. Establishing, monitoring, regulating and enforcing health and safety measures relating to all aspects of upstream petroleum operations;
- vi. Keeping registers of all leases, licences, permits and other authorizations issued by the Inspectorate or granted by the Minister for upstream petroleum operations
- vii. Carrying out enquiries, tests, audits or investigations necessary to monitor the activities of holders of leases, licences, permits and other authorizations;
- viii. Publishing reports and statistics on the upstream petroleum sector;
- ix. Validating and certifying the evaluation of national hydrocarbon reserves;
- x. Maintaining a petroleum data bank comprising all data acquired by or is required to be given to the Inspectorate in the exercise of its statutory functions;
- xi. Ensuring accurate calibration and certification of equipment used for fiscal measures for upstream petroleum operations;
- xii. Issuing licences or permits and other authorizations necessary for all activities connected with seismic, drilling, design and construction of all facilities for upstream petroleum operations;
- xiii. Managing and administering all upstream petroleum data for all unallocated acreages;

³¹ See section 43 of the PIB

³² See section 13 (2) of the PIB Bill

³³ See section 170 (1) of the PIB

³⁴ Ibid section 170 (2)

- xiv. With the approval of the minister, conducting bid rounds for the award of petroleum prospecting licences and petroleum mining leases;
- xv. Approving the concept of the overall design for all field development programmes in the upstream sector;
- xvi. With the approval of the Minister, allocating petroleum production quotas;
- xvii. Develop cost benchmarks for upstream petroleum operations;
- xviii. Computing, assessing and ensuring payment of royalties, rentals, fees and other charges for upstream petroleum operations.³⁵

The Bill requires that electronic copies of all geological, geophysical and other technical petroleum data obtained during upstream petroleum operations be submitted directly to the national petroleum data bank of the UPI within three months of obtaining such data, and hard copies within one month after submission of the soft copy.³⁶

The Inspectorate has power to monitor and enforce the application of tariff and pricing framework for third party access to facilities in the upstream petroleum sector. It similarly has the power to request and obtain any information or any document concerning licensed activities in the upstream petroleum sector from any licensee, lessee or permit holder whether or not it contains business secrets. Subject to legal confidentiality requirements contained in section 174 of the Act, the Inspectorate if it considers it to be in the public interest, may:

- (i) publish information relating to upstream petroleum operations provided by the licensee, lessee or permit holder;
- (ii) require licensees, lessees and permit holders to publish certain information relating to upstream petroleum operations;
- (iii) enforce relevant licence, lease or permit conditions, and institute legal proceedings against any licensee, lessee or permit holder for failure to comply with licence, lease or permit conditions.³⁷

The general thrust of the Act in favour of transparency and fairness seems to have been carried a little too far in the above provision. Publishing confidential information unless required by very compelling public interest goes against the grain of fairness to licensees, lessees and holders of permits. Suing a licensee, lessee or permit holder in breach of a condition or conditions in his licence, lease or permit, is unnecessary. Revoking or suspending the licence, lease or permit, should suffice. The time and expense required to sue such licensee, lessee or permit holder are better deployed by the Inspectorate to more deserving tasks.

Under the PIB, the Downstream Petroleum Regulatory Agency (DPRA) replaces the Department of Petroleum Resources (DPR) in the downstream sector of the oil

³⁵ See section 15 of the PIB Bill

³⁶ Ibid section 144 (8)

³⁷ Ibid section 16

industry. Like the Upstream Petroleum Inspectorate, DPRA is a body corporate charged with:

- i. Administering and enforcing policies, laws, regulations relating to all aspects of downstream petroleum operations as may assigned to it by law;
- ii. Ensuring and enforcing compliance with the terms and conditions of leases, licences, permits and other authorizations in respect of downstream petroleum operations;
- iii. Setting and enforcing approved standards for design procurement, construction, operation and maintenance for all plant, installations and facilities pertaining downstream petroleum operations;
- iv. Ensuring adherence to national and international environmental and other technical standards by all persons involved in all downstream petroleum operations;
- v. Establishing, monitoring, regulating and enforcing health and safety measures relating to all aspects of downstream petroleum operations;
- vi. Keeping registers of all leases, licences, permits and other authorizations issued by the Upstream Petroleum Inspectorate or granted by the Minister for downstream petroleum operations
- vii. Carrying out enquiries, tests, audits or investigations necessary to monitor the activities of holders of leases, licences, permits and other authorizations;
- viii. Publishing reports and statistics on the downstream petroleum sector;
- ix. Issuing and renewing licences, permits or other authorizations and modifying, amending, extending, suspending, reviewing, cancelling, reissuing, revoking or terminating such licences, permits or other authorizations;
- x. Regulating the activities of the downstream petroleum sector in a non-discriminatory and transparent manner;
- xi. Setting cost benchmarks for downstream petroleum operations;
- xii. Regulating bulk storage, transportation and transmission and setting rules for common carrier systems for crude oil, gas and petroleum products in the downstream petroleum sector;
- xiii. Promoting infrastructural development in the downstream petroleum sector;
- xiv. Promoting competition and private sector participation in the downstream petroleum sector.³⁸

Other functions of DPRA include promotion of security of supply in the downstream petroleum sector, implementing consumer protection and ensuring supply of petroleum products.³⁹ DPRA largely replicates downstream the functions of UPI upstream.

³⁸ See section 45(1) of the PIB

³⁹ Ibid

Chapter 2

Operational Institutions

Nigerian National Petroleum Corporation

Though placed under operational institutions, the Nigeria National Petroleum Corporation (NNPC) is also a regulatory as it is an operational institution. However, because it is more operational than regulatory in objective and practice, it is examined under this chapter on Operational institutions.

NNPC was established in 1977 by the NNPC Act 1977. It was established to engage in all commercial activities relating to the petroleum industry and to enforce all regulatory measures relating to the general control of the petroleum sector through its Petroleum Inspectorate Department.¹ By this legislative intendment, the NNPC is to be both an operator and a regulation enforcer which it has been since its establishment.

Reasons for the Establishment of National Oil Companies

The existence of national oil companies is now a common feature in most countries, whether developed or developing, oil exporting or oil importing. The following reasons account for the establishment of national oil companies by states.

First, because oil plays a dominant role in the economic development of all nations, no nation can afford not to take the oil industry seriously. To take the industry seriously, a nation needs to establish a national oil company to oversee the affairs of the industry.

A second reason for the establishment of national oil companies that flows from the first is for a nation to ensure the steady supply of petroleum products to its people. Using Nigeria as an example, despite the fact that the country is a notable exporter of crude oil, it is now almost wholly dependent on importation of refined products in the form of PMS, gasoline and kerosene.

NNPC is to ensure steady and uninterrupted supplies of these petroleum products to the Nigerian local market. Though supplies have also been undertaken by private investors who are licensed by NNPC to do so, since the Corporation cannot guarantee adequate supplies to the Nigerian market by private investors, the bulk supply is by the Corporation. Having licensed private investors to supply refined oil, it

¹ See Preamble to the NNPC Act, 1977

is the duty of the Corporation to ensure that the licensed suppliers not only supply qualitative refined petroleum, but that they do so timely. If there is a failure by private investors to supply high quality refined petrol or to do so in time, it is the Corporation that takes the blame.

A third reason for establishing national oil company for an Organization of Petroleum Exporting Country (OPEC) like Nigeria is that for it to be a member of OPEC, it must have a national oil company. OPEC from its inception made having a national oil company by a country desiring to be a member of the organization a condition precedent for its membership.

A fourth reason is that a national oil company is the agent through which the state regulates its oil industry. State policies like equity participation and non-equity participation in the oil industry as well as increased exploration and production and other forms of investment cannot be achieved without a body charged with such responsibilities. In the case of Nigeria, the transition from being a dormant regulator in the industry, to that of an active participant in the early 1970s has been achieved through the agency or instrumentality of the NNPC. The various joint venture agreements between NNPC and international oil corporations (IOCs) are proof of the critical function of a national oil company in the realization of state policies in the oil industry.

A fifth reason is the desire of host countries to increase their share of revenue from the oil industry. Following years of marginalization, characterized by payment of paltry rents by foreign investors in the industry, oil producing nations are obsessed with getting maximum returns from the oil and gas industry.

A sixth reason is that a national oil company gives a developing nation a sense of achievement as well as enhanced national pride of at least having de jure control of its natural resources. Such control is an aspect of self-determination.

A seventh reason is to enable an oil-producing developing country like Nigeria to fight the injustice represented by the old traditional concessions, which relegated these countries to mere regulators of the oil industry. A State-owned oil company can put an oil-producing developing country in a position to participate fully in the exploitation of petroleum resources thereby realizing the objective OPEC made ownership of a national oil company a condition for admission into the cartel.

NNPC Structure

On paper, the Nigerian National Petroleum Corporation (NNPC) is made up of six Directorates, eighteen subsidiaries and a number of Corporate Service Units. The Directorates evolved out of what the Corporation does. In a broad profile way, the Directorates cover the whole field of the Corporation's activities. They give an idea or direct the mind to the Corporation's broad functions and internal support mechanisms.

The subsidiaries are companies the Corporation delivered. Literally put, the subsidiaries are children the Corporation gave birth to.

The Corporate Service Units are parts of the Corporation that are overtly service driven and covertly profit driven. NAPIMS for example is a Corporate Service Unit. Corporate Service Units being about service are found throughout the Corporation. In a way, a subsidiary is part of a Corporate Service Units, but a Corporate Service Unit is not necessarily part of a subsidiary. This subordinates subsidiaries to Corporate Service Units. This fact is brought home by the fact that a Corporate Service Unit is headed by a Group General Manager while a subsidiary is headed by a Managing Director. The Group includes the subsidiaries. Indeed it is made up of them. A Group General Manager by this manages affairs of the corporation that fall within his corporate service unit while the M.D of a subsidiary is limited to only the subsidiary and cannot exercise power over any other subsidiary or a corporate service unit. All these places a subsidiary under a Corporate Service Unit.

On the other hand, while Corporate Service Units are not companies that enjoy corporate personality and so cannot stand alone, subsidiaries are companies that enjoy corporate personality and can stand alone. Thus while Corporate Service Units are tied to NNPC's apron strings, the subsidiaries are not. This pushes subsidiaries to a higher rung, and Corporate Service Units to a lower rung.

The six Directorates, eighteen subsidiaries and several Corporate Service Units of the NNPC are examined below in the order they have been referred to here. However, they are examined in a manner that will provide only broad and not detailed intelligence on functions and organizational structure. A desire to keep boring details out of the book makes this approach imperative.

NNPC Directorates

Exploration and Production

The Exploration and Production Directorate takes care of all exploration and production matters. Therefore, all exploration and production related activities of NNPC's corporate service units and subsidiaries are under the Directorate of Exploration and Production.

Refining and Petrochemicals

The Refining and Petrochemical Directorate takes care of refining and petrochemical matters. Therefore, all refining and petrochemical related activities of NNPC's corporate service units and subsidiaries are under the Directorate of Refining and Petrochemicals.

Commercial and Investment

The Commercial and Investment Directorate takes care of all commercial and investment related matters. Therefore, all Commercial and Investment related issues of NNPC's subsidiaries and Corporate Service Units are under the Directorate of Commercial and Investment.

Finance and Account

The Finance and Account Directorate takes care of all finance and account matters. Therefore, all finance and account related issues of NNPC's subsidiaries and Corporate Service Units are under the Directorate of Finance and Account.

Corporate Services

The Corporate Services Directorate takes care of all corporate service matters. Therefore, all corporate service issues of NNPC's subsidiaries and Corporate Service Units are under the Directorate of Corporate Services.

Gas and Power

The Directorate of Gas and Power takes care of all gas and power matters. Therefore, all gas and power related issues of NNPC's subsidiaries and Corporate Service Units are under the Directorate of Gas and Power.

Each Directorate is headed by a Group Executive Director (GED).

NNPC Subsidiaries

NNPC has eighteen subsidiaries and they include the following.

Nigerian Petroleum Development Company (NPDC)

NPDC has its head office in Benin-city and base offices/warehouses in Port-Harcourt. It was established in 1988 as a wholly owned NNPC subsidiary with responsibility for petroleum exploration and production activities. NPDC activities cover the whole spectrum of upstream oil activities from exploration to well abandonment. NPDC's vision is to be a commercial oil and gas exploration and production flagship company operating responsibly and applying the best industry practices and technologies. It is also NPDC's mission to be Nigeria's largest exploration and Production Company creating significant value through a strong performance culture, making it the partner and employer of choice across Africa and beyond.

Apart from NAPIMS frontier region exploration activities, NNPC's Exploration Production work is carried out primarily by NPDC. NPDC has discovered, operated and produced oil in several oil blocs across the Niger Delta. The Babangida government assigned 10 oil blocs to NPDC including Oredo and Adofi river and the only remaining offshore bloc. In 1989, NPDC purchased three oil blocs from Mobil and went into field development studies in Oredo oil field which was put into production producing 5,000 b/pd. From beginning, Oredo oil field has been in NPDC operation without the involvement of any International Oil Corporation (IOC).

Before the creation of NPDC, NNPC then NNOC in 1976 drilled its first offshore oil well in OML 96. At that time Mobil was the only IOC operating offshore. NNPC's effort then represented the first successful deep water drilling by any oil company in Nigeria. The water depth was 122 meters then considered deepwater. NNPC also achieved dry land successful drilling at Oredo near Benin in OML 111. This was made in Ogba field -1 where an older and more experienced company had

earlier drilled, but did not find oil and abandoned. In 1981, NNPC drilled another well at Adofi in OPL 135 near Kwale and found oil. According to a Nigerian Petroleum Engineer then: “we have proved we can do it offshore and onshore.”

NNPC upstream operations of the 1970s and 1980s however concentrated more on onshore exploration. By 1979, NNPC had proven reserves of more than 1 billion barrel of crude oil in different oil blocs based entirely on the work of Nigerian Engineers using contemporary technology. Unfortunately, instead of increasing its exploration and production capabilities, NPDC, NNPC’s subsidiary that took over the Corporation’s exploration and production functions lost most of it in the course of time. By 2012, NPDC’s production capacity from three onshore oil blocs could only produce a miserly 10,000 b/pd. On the other hand, its operation engaging Agip an Italian IOC as a service contractor produced 56,739 b/d during the 1st quarter of 2006 and 65,000 during the 2nd quarter. That the subsidiary has to engage a service The Contractor to produce underscores the company’s decline over the years. This decline is caused by neglect, undue interference by NNPC, inadequate financial base and inability to independently source for project finances, among other problems. It is ironic that government seems to have played a large role in undermining NPDC. In 1985, Babangida sold off to IOCs all the offshore blocs NPDC had discovered oil except OPL 91. By 1990 the junta had reassigned to other companies including EIF a French IOC and the Nigerian privately owned Consolidated Oil five out of the ten blocs earlier assigned to NPDC. Again as soon as NPDC improved production to 4,000 b/pd in its Abura oil field, from 980 b/pd, the Obasanjo government withdrew the field from NPDC in 2006 and awarded it to China’s SINOPEC.

Currently, NPDC’s aim is to be producing at least 250,000 b/pd by 2020.² Whether it will achieve this goal remains to be seen. In 2013 NPDC was awarded some oil blocs in Equatorial Guinea.

National Engineering and Technical Company (NETCO)

NETCO started off not as a wholly owned subsidiary of NNPC, but as a Joint Venture between NNPC and Bechtel an American Engineering and Construction company. Under the Joint Venture, NNPC held 60% equity while Bechtel 40%. By the Joint Venture agreement, Bechtel was to facilitate technology transfer through commercial provision of engineering services to the industry. The Joint Venture started operation in 1990. Bechtel however, abruptly withdrew in 1996 leaving NETCO for death. NNPC took over Bechtel’s 40% equity, making NETCO a wholly owned NNPC subsidiary, a development that resulted in difficulties for the company. Clients were reluctant to give work to NETCO because they no longer see white men in its set up. To its credit, NETCO repositioned itself in order to regain the confidence of its clientele. It replaced old equipments with new ones, upgrade its Information

² www.thisdaylive.com

Technology infrastructure and secured in 2000 International Standard Organization (ISO) certification. It was the first NNPC subsidiary to do so. The company's customers started returning. Evidently, NETCO did better under NNPC's sole ownership than it did as a Joint Venture with Bechtel.

In its hey days, NETCO's impact on the industry was great. The company's engineering of certain FPSO components for Nigeria's most prolific deep water fields Shell's Bonga; Mobil's Erah, Chevron–Texaco Agbani among others are NETCO's engineering landmark achievements.³

NETCO secures its engineering services contracts in three main ways: First, NNPC influences the award of contracts to its subsidiary especially NNPC partners. Secondly, NETCO goes out on its own to win contracts for itself. Thirdly, NETCO's prices are competitive.

Apart from its technical achievement, NETCO was also the only NNPC subsidiary to achieve financial self-sufficiency. NETCO appeared to be the only truly commercial NNPC subsidiary. NETCO and to a lesser extent NPDC constituted islands of progress among NNPC's sea of struggling subsidiaries.

Pipelines and Products Marketing Company (PPMC)

Pipelines and Products Marketing Company was set up with the objective of providing excellent customer services by transporting crude oil to the refineries and moving white petroleum products to existing and future customers efficiently and at low cost through a safe and well maintained network of pipelines and depots. It is also part of the objectives of the company to profitably and efficiently manage refined petroleum products in the domestic as well as export markets especially in the ECOWAS sub-region, provide marine services and also maintain uninterrupted movement of refined petroleum products from the local refineries. PPMC has the vision of:

- i. Being the dominant supplier of all refined petroleum.
- ii. Transporting products to existing domestic and growing export market;
- iii. Market products within the West African sub-region.

PPMC also aims at ensuring security of supply of petroleum products to the domestic market at low operating cost, efficiently transporting crude oil to the refineries, efficient and effective evacuation of refined petroleum products from the refineries and competitive marketing of special products. PPMC takes crude oil to the refineries and also takes refined oil from the refineries for marketing.

³ IOCs like Shell and ExxonMobil are more interested in elephant finds like Bonga and Erah than in the small finds of marginal fields. They are also more interested in offshore exploration and production than in onshore and shallow waters exploration and production.

Integrated Data Services Ltd (IDSL)

Headquartered in Benin, the Integrated Data Services Limited was established in 1988 as a subsidiary of the NNPC to provide hydrocarbon exploration services in the local and international oil and gas industry. The company is a merger of the National Hydrocarbon Reserves Evaluation Centre (NHREC) and the Seismic Data Processing Department (DPD). In 1988, the company won an international contract to acquire seismic data for Ghana. The project was a success story for the company.

IDSL's vision is centred on technological excellence in the provision of geophysical, geological, reservoir engineering and data storage and management services in the global oil and gas industry, leveraging on the best talents in Nigeria and internationally. The mission of the company is to operate commercially and to market world-class geophysical, geological reservoir engineering and data storage and management services. Its services/business include: 2D, 3D and 4D seismic data acquisition on land, swamp and marine environment, seismic data processing of 2D, 3D and 4D data, reservoir engineering services for optimum and efficient reservoir performance, data storage and management services for all data acquired from exploration and production operations.

IDSL currently operates a 100% wholly owned seismic data acquisition crew. The subsidiary is also in joint venture with multinational oil and gas services companies in Nigeria. These include United Geophysical Nigeria Ltd, Schlumberger, Landmark, WestemGeco, Pioneer African-Petroleum Services Ltd, and Bureau of Geophysical Prospecting. Some of IDSL clientele include Chevron, Shell Petroleum Development Company (SPDC), Pan Ocean, NPDC, ExxonMobil, Statoil, Texaco, Total, Addax, Sahara, Star Deep and NewCross.

IDSL is currently in the Chad Basin Collaborating with BGP a subsidiary of the Chinese National Petroleum Corporation (CNPC) to acquire seismic data in this frontier region that may lead to oil discovery in commercial quantities. IDSL is also carrying out seismic data acquisition activities in the Niger Delta area of the country that may lead to more oil discovery in the region. This is as it should be. Frontier areas and areas in which oil has already been found should be explored and explored again based on new oil exploration technologies and new ideas.

IDSL's data processing centre (DPC) located in Port Harcourt has a consecutive three-years upgrade. It currently has the largest processing capacity in Nigeria.

IDSL reservoir management services include oil and gas field studies, reservoir management studies, unitization studies, geological and geophysical studies. The department is also involved in research and studies of the frontier basins to discover potential areas for commercial crude oil development in Nigeria.

IDSL either carries out 2D seismic data acquisition operations itself, or awards contracts for acquisition of 2D seismic data to any seismic data acquisition firm of its choice. After acquiring 2D data, IDSL passes the data to DPR.

IDSL is headed by a Managing Director who is supported by two Executive Directors for operations and services. The two Executive Directors oversee the two

divisions in IDSL viz: Operations Division and Services Division. Departments in Operations Division include:

- i. Data Acquisition Department.
- ii. Data Processing Department.
- iii. Reservoir Engineering Services Department.
- iv. Applied Computer Services Department.
- v. Health, Safety and environment Department.

Departments in Services Division include:

- i. Human Resources Department.
- ii. Public Affairs Department.
- iii. Finance and Accounts Department.
- iv. Administrative Services Department.
- v. Security Services Department.

Departments outside those under Operations and Services Divisions are directly supervised by the company's Managing Director. These departments are:

- i. Internal Audit Department
- ii. Materials Management Department
- iii. Planning and Budget Monitoring Department
- iv. Company Secretariat and Legal Department
- v. Research and Marketing Department

Warri Refining and Petrochemical Company (WRPC)

The Warri Refinery the first Nigerian wholly owned refinery was commissioned in 1978. It was built to process 100,000 barrels of crude oil per day, but was later debottlenecked to process 125,000 barrels of crude oil per day in 1987. It was essentially built to add value to some petroleum by-products such as propylene rich stock and decant oil. Warri Refining and Petrochemical Company was incorporated as a limited liability company in 1988 after the merger of the Warri Refinery and the Ekpan Petrochemical plant.

The Warri Refinery was designed to generate 125 megawatts of electrical power from three gas turbine generators and three steam Turbo-generators. The refinery is designed to refine daily allocated 125,000 b/pd. It receives crude oil from PPMC another subsidiary of NNPC. It refines the crude into products at agreed processing fee and yield the processed oil for offtake by PPMC which is the sole processee and offtaker of processed products. The refinery leases the refining and petrochemical assets from Corporate Headquarters for a fee. The refinery also pays Corporate Headquarters overhead charge.

The refinery is headed by a Managing Director who is supported by Executive Director for Operations and Executive Director for Services. The Executive Director Operations supervises the following departments:

- i. Production

- ii. Engineering and Technical Services
- iii. Power, Plant and Utilities
- iv. Maintenance
- v. Production, Programming and Quality Control
- vi. Health Safety and Environment

The Executive Director Services has under him the following departments:

- i. Human Resources
- ii. Finance and Accounts
- iii. Public Affairs
- iv. General Administration
- v. Security

The Managing Director directly supervises the following departments:

- i. Supply Chain Management.
- ii. Planning and Budget Monitoring.
- iii. Company Secretary.
- iv. Total Quality Management.
- v. Internal Audits.
- vi. Commercials.

Kaduna Refining and Petrochemical Company (KRPC)

The Kaduna Refinery was built in 1977 after a feasibility study that showed its imperativeness. Due to the fact that there was increased demand for petroleum products in northern Nigeria, a decision was taken in 1974 to establish the Kaduna refinery. It was reasoned that it would be more cost effective to transport crude oil by pipeline to the Kaduna Refinery where it would be refined and distributed to petroleum products depots in the north than transporting refined products by rail or road to the north. The refinery was designed to refine both imported and Nigerian crude oil into fuel and lube products. Initially it was designed to refine 60,000b/pd which was later increased to 110,000 b/pd. The lubricating complex of the Kaduna Refinery is the first of its kind in West Africa and one of the largest in Africa. Products from the refinery include Liquefied Petroleum Gas, Premium Motor Spirit, Automotive Gas Oil, Diesel oil, kerosene fuel, asphalt and waxes. Like the Warri refinery, the Kaduna refinery is headed by an M.D and has similar divisions and departments.

Port Harcourt Refining Company Ltd (PHRC)

There are two refineries in Port Harcourt. The first refinery was commissioned in 1965. It has a refining capacity of 60,000 b/pd. The second refinery commissioned in 1989 has a refining capacity of 150 b/pd. Products of the two Port Harcourt refineries include kerosene, Automotive Gas Oil, Liquefied Petroleum Gas, Premium Motor Spirit, Aviation Fuel, Low Pour Fuel Oil, and High Pour Fuel Oil.

The two refineries have the objectives of continually improving the efficiency of the refining process and utility plants to optimize their capacity utilization, treat all

effluents to statutory safe levels before discharge into the environment and being responsible corporate citizens by contributing to the social and economic development of their host communities.

Like other refineries, the two Port Harcourt refineries have M.Ds, and two executive directors each. The two executive directors are in charge of operations and services divisions of the two refineries. There are 16 main departments namely: production, maintenance, production programming and quality control, engineering and technical services, power plant and utilities, health, safety and environment, supply chain management, finance and accounts, planning and budget monitoring, administration, human resources, public affairs, internal audit, security, total quality management, company secretary/legal department.

To be profitable refineries should be of world scale size, fuel efficient, be able to operate near full capacity and meet special market needs. As at 2013, this was what Nigerian refineries lacked.⁴

Nigeria-Gazprom Ltd

Nigeria-Gazprom or Nigaz is a joint venture between the Russian Gas Company Gasprom E.P International B.V and the Nigerian National Petroleum Corporation. Nigaz was established in 2009. It plans to invest 2.5 billion dollars to build oil and gas refineries, pipelines and gas power stations in Nigeria.

Nikorma Transport Ltd

Nikorma Transport is a world class liquefied natural gas shipping company. It is an NNPC subsidiary located at No.7A Lake Chad Crescent, Maitama, Abuja. As at 2013, it was a moribund subsidiary.

Midas Marine Ltd

Midas Marine is an NNPC subsidiary engaged in shipping engineering. It was incorporated to take charge of engineering tankerships that carry crude oil for international sale. As at 2013, it was a moribund subsidiary.

Hydrocarbon Services Company Ltd

Hydrocarbon Services Company Ltd is involved in marketing and distribution of petroleum products in Nigeria. As at 2013, it was a moribund subsidiary.

NNPC Pension Fund Ltd

NNPC Pension Fund Ltd is a subsidiary that takes care of the Corporation's Pension Fund established under the NNPC Act. As at 2013, it was a moribund subsidiary.

⁴ There was something of a tragic coincidence here. A nation with small oil reservoirs into which associated gas could not be re-injected had small refineries flaring gas.

NNPC Properties Ltd

NNPC Properties Ltd is an NNPC subsidiary charged with managing the Corporations property that are not managed by NAPIMS. As at 2013, it was a moribund subsidiary.

NNPC Retail Ltd

NNPC Retail Ltd is NNPC's retail subsidiary that operates the corporation's retail outlets that ensure efficient service delivery of petroleum and allied products to customers in an environmentally friendly manner. The mission of NNPC Retail Ltd is to establish and profitably operate model retail outlets with efficient service delivery of petroleum and allied products to customers in an environmentally friendly manner. The vision of the subsidiary is to become the preferred market leader driven by excellence in operations and customer service delivery.

NNPC Retail Ltd commenced operations in 2002 when the first retail outlet was commissioned in Lagos to market petroleum products to the public. NNPC entry into products retailing was a strategic move intended to provide the corporation with:

- i. The vehicle for intervention in the market during periods of emergency and avoidable supply disruptions;
- ii. A benchmark for key players in the distribution chain that ensure safe, orderly and profitable retailing of products in the country;
- iii. A vehicle to achieve NNPC's world-class vision by integrating its upstream and downstream businesses in a similar manner with other national and international oil companies.

As at 2013, NNPC retail operated twelve floating, 37 mega and over five hundred affiliate petrol filling stations nationwide. NNPC Retail Ltd is headed by a Managing Director and is made up of five departments namely: Operations Department, Sales and Marketing Department, Strategy and Planning Department, Special Products Department, Finance and Accounts Department.

Assisting the M.D are his Technical Assistant, Secretary, the Company Secretary/Legal Adviser, the Head External Relations and the Data Analyst. Running the departments of the subsidiary are the GM Operations, GM Sales and Marketing, GM Special Products, GM Strategy and Planning, GM Finance and Accounts, Floating Mega Stations Coordinator, Manager Audit, and Manager Production Sharing Contract. The office of the MD of NNPC Retail Ltd is in Block A, 7th Floor Room 25 NNPC Towers Abuja.

Duke Oil Services Ltd

Duke Oil is a wholly owned international subsidiary of NNPC engaged in direct oil trading activities in the spot market to achieve operating capability, downstream integration and additional profit from oil operations.

Duke Oil Company was registered in Panama in 1989 to engage in crude oil and petroleum products trading across the full stretch of oil trading and price risk management instruments in the international market. The London branch office was

registered in the U.K in 1992 as a service company. It was moved to Paris for a short period in 1997 but returned to U.K in 1998. Duke oil is an international trade partner in crude oil, refined products, Liquefied Petroleum Gas and condensates. Duke oil was established to serve as a vehicle of bringing NNPC directly in contact with the international oil market for strong international competence and value addition to its oil and gas business. Duke Oil from the very beginning went into partnerships with well established oil trading companies between 1989 and 1994 trading 30,000 barrels of crude oil per day.

However, the J.V engagements of the company were brought to an end in 1995 when it was considered its capabilities had grown sufficiently for it to commence trading operations on its own, on a stand alone basis. Since then the company has been marketing Nigeria's crude oil without the assistance of any international oil corporation.

Calson Bermuda Ltd

Calson Bermuda is an NNPC subsidiary that is supposed to engage in international oil trading, but currently does not do so. Together with Hyson Nigeria Trading, Napoil Trading, Nigermid Petroleum Trading and Duke Oil, Calson Bermuda Ltd was incorporated by NNPC as international oil direct traders. Of these five international oil trading companies however, only Duke oil is involved in international trading of Nigerian oil. All the others are moribund. Meanwhile the country relies on private commodities traders dubbed *briefcase traders* that cause the nation to lose billions of dollars.⁵ These briefcase traders not properly registered or qualify to lift and sell oil internationally game the system to cause the losses.

Nigerian Gas Company

Nigerian Gas Company (NGC) was established in 1988 as one of the then eleven subsidiaries of the NNPC. It is charged with the responsibility of developing an efficient gas industry to fully serve Nigeria's energy and industrial feedstock needs through an integrated gas pipelines network and also to export natural gas and its derivatives to the West African sub-region. The subsidiary was established to efficiently gather, treat, transmit and market Nigeria's natural gas and its by-products to major industrial and utility gas distribution companies in Nigeria and neighbouring countries.

In order to deliver efficient services to customers, NGC focuses on transmission, distribution and marketing of natural gas. NGC's vision is to be the preferred Gas Company to all its present and future customers. Its mission is that it is committed to adding value to gas and making it energy resource of first choice for the benefit of Nigerians and other stakeholders. Its quality statement is that it is committed to continually improving the effectiveness of its quality management system and value

⁵ See front page of Premium Times in Nov. 2012 Nuhu Ribadu led Petroleum Revenue Special Task Force (PRSTF)

adding processes for the supply of on-specification gas that meets or exceeds the requirements of its current and future customers through the involvement of highly skilled and motivated human resources. The NGC has the objective of conducting its activities in a manner that promotes the health and safety of its employees, assets and the public as well as the protection of the environment.

NGC being the Nigerian government gas company should have been to the Nigerian gas industry what NNPC is to the oil company. It should have had a law passed on it like the NNPC Act setting out its structures, spelling out its objectives, functions and powers and recognizing it as an operator and regulation enforcer like the NNPC. If this were the case, NGC will not be an NNPC subsidiary, but a corporation with its own subsidiaries. NGC as a parallel corporation with NNPC would have generated parallel structures in the gas industry that would advance the development of the gas industry as NNPC has done for the oil industry. Unfortunately this is not the case. NGC is just another gas company among other gas companies with little powers to generate parallel structures or to enforce regulations on other gas companies. The Petroleum Industry Bill however looks set to change all these. It has set up a National Gas Company⁶ not as a subsidiary of the National Oil Company,⁷ but as a separate and independent company doing for the gas sector what the National Oil Company will do for the oil sector.

Be this as it may, the current situation is that NGC is a subsidiary of the NNPC. Beside NGC, NNPC has evolved what might be tagged quasi NNPC subsidiary companies in the gas sector.

NNPC Quasi-subsidiary Gas Companies

As the name suggests, these are not wholly owned NNPC subsidiaries, but companies in which the corporation is only a major shareholder alongside other shareholders. The quasi NNPC subsidiary companies are Olokola Liquefied Natural Gas, Escravos Gas to Liquid, Oso Natural Gas Liquid Plant, Brass Liquefied Natural Gas Ltd and Bonny Liquefied Natural Gas. These Gas companies will be briefly discussed in the order they are mentioned.

Olokola Liquefied Natural Gas

The Olokola Liquefied Natural Gas project as at 2013 was still at the tendering stage, i.e the project stage. The Olokola LNG also known as OK LNG, is situated at the western axis of the Niger Delta. The Olokola plant was projected to cost over \$7 billion. It is designed with an initial capacity of 11mtpa. It is funded through a joint venture in which the Nigerian government holds 49.5% stake, Royal Dutch Shell, 18.5%, Chevron, 18.5 % and the British Gas Group 13.5 %. OK-LNG was designed to have four trains with a capacity of 22m t/y. The first two trains with an 11m t/y

⁶ See Section 159 of the Petroleum Industry Bill, 2012

⁷ Ibid section 148

capacity were proposed to be on stream in 2011. But this target could not be realized due to funding problems. The second phase of the project was designed to produce about 300,000 b/pd of LPG and condensate. However, as at 2013 it was still at the tendering stage. Ultimately the OK-LNG was designed to have 33m t/y LNG productive capacity.

Gas supply to OK-LNG for liquefaction would initially come from Shell and Chevron operated JVs. About 1,000 MCF/d of gas would be required for each train. Another 500 MCF/d would be needed for internal energy consumption. The British Gas Group, one of the shareholders in OK-LNG, has the option to participate in the supply of gas to the third and fourth trains.⁸

Escravos Gas-To-Liquid

Gas to liquid is a developing technology that converts standard natural gas into synthetic gasoline diesel or jet fuel. Gas to liquid burns cleaner than, comparable petroleum fuels.

The Escravos Gas-To-Liquid project is another project, which as at 2013 was still underway or at the project stage. The project, is jointly owned by Chevron Nigeria Limited and NNPC. Under the joint venture Chevron owned 75% equity while NNPC owns 25%. The Escravos Gas- Liquid project was conceived and designed to be an integral part of the owners overall gas utilization strategy. This gas utilization strategy includes domestic gas sales, regional gas sales through the West Africa Gas Pipeline (WAGP) and international sales of GTL products.

The proposed Escravos GTL plant would be capable of converting over 300million cubic feet of natural gas to liquid in a day. This liquid is a premium environmentally friendly fuel, diesel and GTL naphtha product. The Escravos gas to liquids facilities will combine technology from Sasol - a South African-based technology company, and from Chevron which specializes in hydro processing technology. As at 2013, the project cost was estimated at \$1.7bn with an initial plant production capacity designed for 3400 barrels per day. This initial production capacity was expected to expand to 120,000bpd within ten years of completion of the project.

The Escravos GTL plant is located adjacent Chevron Nigeria Limited Escravos Gas Plant - phase 1 in Escravos. This plant processes about 150 million cubic feet of gas per day and produces LPG for sales to the international market and pipeline quality gas for domestic use. The EGP-1 project, which cost \$550 million was completed in 1997. The NNPC/CNL Joint venture is currently expanding the gas plant in EGP-2 and plans to construct an additional plant - EGP-3 to ensure sufficient gas supply for the EGTL and the West Africa Gas Pipeline project.⁹

⁸ www.vanguardngr.com visited 12/12/2013

⁹ [www.hydrocarbontechnology.com /project/escravos](http://www.hydrocarbontechnology.com/project/escravos)

Oso NGL Plant

The NNPC/Mobil JV commissioned the Oso NGL project in 1998. Feed gas for the NGL plant comes from the Oso Condensate field and other associated gas productions. The Oso Condensate field began production in 1992 and produces 110,000 barrels per day. The Oso NGL project as at 2013 was expected to recover 350 million barrels condensate over its lifetime without any impact on condensate production. The project involves two principal locations, the offshore site at the Oso field and the onshore site at the Bonny River Terminal.¹⁰

Brass Liquefied Natural Gas Ltd

Brass Liquefied Natural Gas Ltd has four share holders namely: NNPC, ENI International, Phillips Brass Ltd an affiliate of ConocoPhillips, and Brass Holdings Company Ltd an affiliate of Total. The shareholding of the company is NNPC 49%, ENI International 17%, Phillips (Brass) Limited 17%, and Brass Holdings Company Ltd 7%.

In 2006, the four shareholders of Brass LNG Limited signed the Shareholders' Agreement for the Brass LNG Project. In November, 2004, the contract for the Front End Engineering Design (FEED) for the project was awarded to Bechtel Corporation - a San Francisco USA based engineering company.¹¹ The award of the FEED contract put the project on track towards completion by the second half of 2009. The FEED contract awarded prepared the scope of work for the award of Engineering Procurement and Construction (EPC) contracts and pre-qualifying The Contractors for the EPC activities.

The Brass LNG facility built on Brass Island in Bayelsa state would initially consist of two trains with a combined capacity of 10m t/y. This capacity was intended to be on stream in 2011, but was not. The Brass plant was also designed to produce 2.5m t/y of LPG per day and some condensates. It would have facilities for segregation and treatment of butane and propane, and also for the liquefaction of the two gas components. It would also have 185,000 m3 LNG storage tanks, two 110,000 m3 LPG storage tanks, one 500,000-barrel capacity NGL tank, marine facilities for the products export; and accommodation for plant operators.

¹⁰ www.thefreelibrary.com

¹¹ The award of the FEED contract to Bechtel the U.S company that abandoned NETCO an NNPC petroleum engineering subsidiary by a company NNPC is a major shareholder speaks volumes of how business is done in Nigeria. It is true that sentiments should be kept out of business and so one should do business with a person one may not like if that person can deliver. Be this as it may, if there are other people that can deliver as well as the person that has wronged one, it is in line with fairness to oneself to patronize the person that has not wronged one. There were quite other equally capable petroleum engineering companies that would have handled the FEED of the Brass Liquefied Natural Gas, but they were ignored in favour of Bechtel. Even NETCO which Bechtel left for death could have handled the FEED of the Brass Liquefied Natural gas. Except to the extent that other companies did not bid for the FEED contract, the award of the contract to Bechtel against the backdrop of Nigeria's experience with that company is inexplicable.

Brass LNG products will be loaded onto vessels by cryogenic pipelines and then transported to terminal facilities in the Atlantic Basin. The natural gas will then be transported to the United States and Mexico. The project is expected to produce 10 million tons of liquefied natural gas per year during its 20-year lifetime. Bechtel Corporation is the project manager of the plant site. As at 2012, the project has cost an estimated US\$8.5 billion.

The liquefied natural gas project has significantly reduce gas flaring. It is the most significant arrow head in the Nigerian government's quest to end gas flaring. In addition to reduction of gas flaring, if the Nigerian government had not sold its stake in the project, it would have been a major foreign currency earner for the country. It would also have helped the diversification of the nation's economy from its heavy reliance on oil.

Under the Nigerian federal government gas – power policy, the Nigerian federal government between 2001 and 2007 initiated the setting up of 4 gas power plants at Geregu Kogi state, Omotosho Ondo state, Papalanto Ogun state and Alaoji Abia state. 7 other gas power plants were also set up in the South-South region of the country where most of Nigeria's gas is found. These include the Afam, Ughelli and Sapele power plants. These gas power plants will power electric supply particularly in the southern part of the country. The Power Holding Company of Nigeria (PHCN) funded the building of the gas power plants while NNPC was required to lay the pipelines that will carry the gas from where it is produced to the gas power plants. Usually NNPC buys the gas from the IOCs producing the gas and delivers it to the gas power plants.¹²

After the power plants had been established, the Power Holding Company of Nigeria (PHCN) that helped to set them up will dissolve into them and they would be sold to private investors known as Independent Power Producers (IPP) from whom the Nigerian Bulk Electricity Trading (NBET) company will buy through a Power Purchase Agreement (PPA) and sell to 11 power distribution companies through vesting contracts. All these transactions are driven by the Electricity Power Sector Reform Act (EPSRA) and overseen by National Electricity Reform Commission (NERC)

Eleme Petrochemical Company Ltd

Eleme Petrochemical Company Ltd (EPCL) was incorporated in 1988 as a 100% subsidiary of NNPC. It started operation in 1995. Due to operational problems caused by inadequate maintenance, lack of spare parts, equipment breakdowns etc, the plant operated at a low capacity for a long time. To get the plant to overcome its problems

¹²It is worth noting that while NNPC buys Non-associated gas from IOCs, it takes free associated gas from IOCs. The Petroleum (Amendment) Act 1973 enabled government to collect associated Gas free of charge at the flare sites.

and operate at higher capacity, the federal government sold 75% of its equity in the company.

Each NNPC functional subsidiary is headed by a Managing Director (MD). The MD manages the subsidiary for the NNPC and takes directives from the GMD of the corporation.

NNPC Corporate Service Units

NNPC has two types of Corporate Service Units namely: Corporate Service Units pulled out from the Corporation's stock and diffused Corporate Service Units. National Petroleum Investment Management Service (NAPIMS) is an example of the first type of Corporate Service Units while finance and accounts are examples of the second type. While the first type of Corporate Service Units as its name suggests has a separate structure of its own, the second is submerged and scattered throughout the Corporation. The first type of Corporate Service Units looks like subsidiaries while the second type looks like departments.

National Petroleum Investment Management Service

NAPIMS has its headquarters at 34/36 Gerard road Ikoyi Lagos. It is a Corporate Service Unit in the Exploration and Production Directorate of the NNPC. It is charged with the responsibility of managing federal government investment in the upstream sector of the oil and gas industry. NAPIMS' objective is to enhance the margin accruing to the federal government through effective supervision of the Joint Venture companies, Production Sharing Companies and Service Contract companies through adequate supervision of budgets and performance and ranking of projects that gives higher returns on investment to the federal government. Through Nipex, NAPIMS has established an e-marketplace and Joint Qualification System (JQS) for electronic procurement/contracting and registration of Contractors and service providers. This aims at achieving transparency in the contracting process and reduces contract approving cycle.

Section 31 of the Nigerian Content Development Act provides for the establishment of the JQS. The JQS so established shall constitute an industry data bank of available capabilities and shall be used for:

- (a) Prequalification of contractors;
- (b) Verification of contractors capabilities and capacities;
- (c) Tracking and monitoring of performance;
- (d) Ranking and categorization of service companies based on capabilities and Nigerian content;

The Nigerian government has equity holdings in the following Joint Venture companies, which NAPIMS watches over on behalf of the government. The companies are: Shell Petroleum Development Company Ltd, Mobil Producing Nigeria Unlimited, Chevron Nigeria Ltd, Total Exploration and Production Nigeria Ltd, Nigeria Agip Oil Company Ltd, and Pan Ocean Oil Corporation. NAPIMS

supervises the mechanism of funding Joint Venture operations through the cash call process. As at 2013 there were over 50 PSC companies at various levels of operations supervised by NAPIMS. Seven of these companies are producing at a high rate.

NAPIMS is meant to be one of the vehicles that the Nigerian government uses to implement its local content policy. Through effective monitoring of the contracting process, NAPIMS is expected to ensure that there is indigenization in contract awards. The Corporate Service unit is also supposed to ensure local content and capacity building through domiciliation of all geological and geophysical studies and pre-Front End Engineering studies.

Nipex a Division of NAPIMS helps the attainment of Nigerian content in the oil industry through the online prequalification system that makes the qualification of Nigerians known by operating a data bank of available Nigerian contractors and suppliers of goods and services to the Nigerian petroleum industry. To prequalify for NNPC contracts, a person needs to apply to Nipex after purchasing application form from the Division. DPR may pay site visits to inspect available equipment. Thereafter the company is listed with its capacity and capabilities. The online prequalification system makes the qualifications of Nigerians known.

NAPIMS is required to adopt global standards and best practices to ensure that operations are carried out in an environmentally friendly manner. For this reason the department of safety, security and environment reports directly to NAPIMS' GGM.

NAPIMS Public Affairs Department is supposed to ensure sustainable community development especially in the host communities of operations in the Niger Delta. Community development refers to here include health care, educational sponsorship, sports development and awareness campaign.

NAPIMS is also involved in direct exploration of the frontier and inland basins. NAPIMS' vision is to be a world-class portfolio manager of government investment in the oil and gas sector.

NAPIMS is headed by a Group General Manager (GGM). Reporting to the GGM are General Managers who oversee the Divisions. The Divisions have departments that are overseen by managers. The departments are subdivided into sections that are overseen by Deputy Managers who directly oversee the rest of the staff. There are nine Divisions in NAPIMS namely: Joint Venture Operations, Production Sharing Operations, Gas, Materials Management, Planning, Finance and Accounts, Nipex, Services and Legal.

In 2005, NAPIMS came out with the below mission statement:

- i. Low cost operation;
- ii. New technology development in the oil and gas sector;
- iii. Elimination of gas flaring by 2010;
- iv. Monetization and commercialization of gas resources;
- v. Achieving productivity level of 4.5 million barrels by 2010;
- vi. Achieving 40 billion barrels reserves by 2010;
- vii. Transparency of transactions;

viii. 70% local content by 2010.¹³

National Petroleum Assets Management Corporation (NPAMC)

Under the 2012 Petroleum Industry Bill, NAPIMS is replaced by the National Petroleum Assets Management Corporation (NPAMC). Section 123 of the PIB provides that the Minister of Petroleum shall not later than three months after the coming into effect of the Bill as law, take steps under the Companies and Allied Matters Act, to incorporate the NPAMC which shall be vested with certain assets and liabilities of the NNPC. The assets and liabilities of NNPC which would be vested in NPAMC are 'assets and liabilities comprising exclusively the interests in all the unincorporated joint ventures held by NNPC on behalf of the government but excluding any asset that the government may have vested in the National Oil Company.¹⁴ The vesting in NPAMC of government interests in unincorporated joint ventures is required by the Bill to take effect within twenty-four months from the effective date.¹⁵ It is not clear whether effective date here refers to the date the Bill becomes law or the date NPAMC is incorporated.

Under the Bill, NPAMC will be a Corporation with subsidiaries.¹⁶ The Bill provides that NPAMC will acquire and manage investments of the government in the Nigerian upstream petroleum industry.¹⁷ The Bill went on to provide that NPAMC shall maintain a Fund into which would be paid such sums as may be made available by the government for the purpose of funding the subsidiaries of the corporation, and also such monies as may be received by the corporation in the course of its operations or in the exercise of its functions.

The implications of all these provisions is that first, NAPIMS(NPAMC under the new law) will no longer be a corporate service unit or subsidiary of NNPC (the National Oil Company under the new law), but an independent corporation with its own subsidiaries. Secondly, NPAMC being a Corporation managing Joint ventures earlier managed by NAPIMS, cash calls would be done away with. The funds which the government will be paying into the Fund of the Corporation would be used to fund the joint ventures. Any shortfall may be taken care of by borrowing as all corporations do. Under the Bill, NPAMC is entitled to partner with IOCs to source funds.

NAPIMS has three decision-making levels viz: Sub-committee (Subcom), Technical committee (Teccom), Operation Committee (Opcom) and Management Committee (Macom). The sub committees recommend to the Technical Committee, which recommends to both Operation Committee and Management Committee.

¹³ www.napims.com

¹⁴ See Section 125 (1) of the PIB

¹⁵ Ibid

¹⁶ See section 121 and 122 of the PIB

¹⁷ See section 120 (4) of the PIB

Operation Committee and Management Committee are coordinate committees that approve the recommendations of the sub-committees and technical committee. Operation committee comes into play with respect to joint venture operations that involve cash calls, while Management committee deals with PSC operations. In between Teccom and Opcom/Macom is the Financial Committee (Fincom) which looks at the financial decision of Teccom before passing it to Opcom or Macom.

Crude Oil Marketing Division (COMD)

The Crude Oil Marketing Division is the Division charged with marketing crude oil. If COMD must be under any Corporate Service unit, it should be either under the Upstream Business Development Corporate Service Unit or under NAPIMS. Under NAPIMS because NAPIMS being the Corporate Service Unit in charge of Joint Ventures, Production Sharing Contracts and Service Contracts which produce the oil, it should house the Division that markets the oil. If COMD must be placed under a subsidiary, it will be placed under PPMC. PPMC because PPMC being involved in bulk transportation and marketing of crude oil and petroleum products, COMD involved in marketing crude oil should be placed under it.

There are principally two ways of marketing crude oil viz: spot sale and the term contract. The spot sale means what it implies: A sale to anyone on the spot in the oil market. The sale and delivery of the oil ends the transaction. This makes a spot sale a lone and isolated transaction. It is a sale modelled along the common contract of sale of goods, e.g. a sale of yams. Sale of crude oil under a term contract on the other hand is different. It is not a lone or isolated transaction. On the contrary, it is a series of sales to one person or entity over a period of time. Therefore a term contract may be for two or five years. Usually to be entitled to a term contract, a purchaser must meet certain conditions.

Requirements for buying and selling Nigerian crude oil under Term Contracts

Those who wish to buy and sell Nigerian crude oil under term contracts must demonstrate their commitment to the Nigerian oil industry through allocation of adequate resources of capital equipment and manpower to the general business of exploration, prospecting and production of crude oil. Among those eligible to apply for Nigerian crude oil purchase are an upstream investor who has acquired an oil prospecting licence and who must have completed a minimum amount of work on the concession. Others qualified are:

- i. Local refineries;
- ii. International refineries;
- iii. An established and globally recognized large volume trader with proof of global network operations and volumes of crude oil handled in the last three years.

All applicants for crude oil term purchase must have a minimum annual turnover of at least 100 million dollars and a net worth of not less than 40 million

dollars. Successful applicants must show commitment to the development of the Nigerian economy by investing in a number of opportunities that abound either in the oil or gas industry. Successful companies will be required to post a 1 million dollars performance bond through a first class Nigerian bank.

Crude oil is often sold before it is even produced. For instance, crude oil to be produced in one month time might be sold now. If this happens, the sale transaction is referred to as a future. If between sale and production, there is a shut-in, the seller might have problems with meeting the delivery date.

In a 2013 advert, the Crude Oil Marketing Division of the NNPC warned members of the public to be wary of fraudsters who forge shipping documents, impersonate top NNPC officials and peddle fake crude oil allocation papers. The Division avowed that it does not sell its crude oil through agents nor does it carry out any spot sales except through Duke Oil Ltd. There is also nothing like Presidential Task Force, Ministerial, Diplomatic or any other form of special or privileged allocation which can be peddled by hawkers for anyone. NNPC has not given any mandate to anyone to negotiate sales of Nigerian crude oil on its behalf. Anyone who is duped through any of these bogus schemes has himself to blame.¹⁸

The objective of COMD is to make Nigerian oil traders dominate oil deals. In 2013 NNPC claimed that sale of crude oil by Nigerian traders collectively accounted for 98.2 million barrels. During the same period, international traders sold 61.2 million barrels of crude oil. Nigerian refineries took 36.2 and 38.3 million barrels onshore and offshore respectively.¹⁹ The selection of traders by NNPC is supposed to have standardized criteria, which evaluate buyers' facilities, volume of transactions, turnover and financial health of the companies. According to NNPC 2012/2013 term contracts had a preponderance of Nigerian trading companies with 23 out of the 40 regular buyers.²⁰ NNPC aspires for its pricing strategy to be aligned to international best practices in the industry. Its prices are based on a reference to the benchmark crude Brent whose prices are published by Platts for the international trading community. These processes are supposed to apply to all buyers of Nigerian crude based on the terms prescribed in the General Sales Agreement entered into by all parties. The NNPC Act mandates the Corporation to supply petroleum products to the federation as supplier of last resort. In order to meet this obligation, 445,000 barrels of crude oil is assigned to the Corporation at international price for domestic refining. The Corporation disposes the unrefined portion of the assignment through direct exports or other secondary arrangements including swaps to ensure procurement and delivery of refined petroleum products.

COMD is charged with marketing Nigerian crude oil. It performs this function alongside the IOCs the same way NPDC explores and produces crude oil alongside the

¹⁸ www.nnpcgroup.com

¹⁹ alibaba.com

²⁰ Opcit reference 82

IOCs. It is the IOCs that have the sale outlets the same way it is the IOCs that have the technical knowhow to drill for and produce the crude oil.

According to the Nigerian Extractive Industry Transparency Initiative (NEITI), Nigeria lost over 11 billion dollars to crude oil theft²¹ and pipeline vandalism between 2009 and 2011. This amount covered proceeds from 136 million barrels of crude oil estimated to have been stolen within the period.

There are allegations that the oil industry employees either with NNPC or the IOCs are behind the oil theft. The industry is full of contract staff who are not as well paid as NNPC or IOC staff. These contract staff are disgruntled and resentful of the huge salary difference between them and NNPC or IOC staff. Having the know-how to tap oil from pipelines, they do so to bridge the salary difference and hit back at the system. In sum, there are thousands of people who have the skills to bunker for oil because they have been working with the industry over the years. These people are outside and some of them may be hired by bunkerers with the money to hire them.

Oil theft in Nigeria has reached an industrial scale. It undermines the Nigerian economy. It ranks only second to the drugs trade as the most lucrative crime in the world. In 2013, it was alleged that oil theft in Nigeria cost the oil companies around J1bn a month. This amount is more than what the nation spent on education and health in 2013.²²

The oil theft industry in Nigeria is a sophisticated organization that is clearly international as it is local. It is an industry that involves commodity traders, top government officials, the Nigerian military and navy and even the oil companies themselves. In 2011, the Nigerian navy had to sack two admirals for their role in the disappearance of a tanker that had been seized for transporting 11,000 tons of Nigerian stolen crude oil. The Nigerian military became more deeply involved in oil theft after amnesty was declared for militants in 2008. The military is a chain of command. If it is involved in bunkering, it may be assumed that the bunkering goes on to the very top military brass. Oil theft used to be about people breaking into pipes. By 2013, this was no longer the case. Whoever wanted to bunker may pay money to the military for security to do so.²³

It is a joke in Delta State that when an officer of the Navy, Army, Police Force or some other security outfits is posted to the state, especially the oil producing part, he goes for thanksgiving even before resumption of duty. In a country gratuity benefits are hard to come by after leaving service, many of such officers after their stints in the state, are usually retired from the force because it is believed they have been *settled*. So

²¹ Hot tapping is a popular means of oil theft. Hot tapping also known as wet tapping is a way of tapping into an oil pipeline while it is under pressure to drain its contents. The hot tap (service saddle or sleeve) is placed on the pipeline; a valve is added, the connection is tested using hydrostatic pump; the hot tap machine is placed on the pipeline which is drilled for its oil. Water may be tapped this way.

²² The Observer 5th March, 2013

²³ Ibid

a transfer to the state is seen as a call to be compensated and relieved of the yoke of retiring into penury.²⁴

According to a Niger Delta peasant, most of the oil is being stolen by the rich.²⁵ He opined that:

It is dishonest for government and the oil companies to blame the poor for stealing the oil. The people in the communities are just the foot soldiers. Clearly oil theft is by a sophisticated organization ran by the rich and powerful in society. Where do poor people get vessels, the money for bribes and security? All these cost millions of dollars. What the poor take is very small. The racket goes deep into the security and political systems. Tens of thousands of tons of oil is being spirited away every week. All the authorities are involved – the oil companies, the military, the politicians. There's plenty of money to be made, so everyone is in it.²⁶

A 2012 Research by a Niger Delta Non-Governmental Organization Stakeholder Democracy Network (SDN) estimated that 75% of the stolen oil is being exported while the rest was being refined in illegal *artisan refineries*. As at 2012, more than 500 of these illegal refineries were known to have been set up in the Niger Delta. The illegal refineries take stolen crude oil and refine it into rough diesel for local sale.²⁷

According to SDN, a medium-sized illegal refinery costs around J3,000 to set up but can earn that back in a few weeks. But the operators need to pay heavy bribes to the police and military, as well as to buy oil pipeline tapping device. The 1,600km of pipelines that criss-cross the Niger Delta are tapped at different points vide a process called *hot tapping* by those with the tapping devices. Each tapping point, says SDN, can earn more than J500,000 a month. However, its investors must pay armed guards, the military, contractors, local communities and even oil company staff.²⁸

Niger Delta communities freely admitted their role in the theft of oil, but blamed high incidence of poverty and pollution for their actions. 'The government and oil companies are collecting our oil and we don't have jobs, or money; so we have to collect the oil and refine our own,' said a man in Bolo community where an illegal refinery was set up in 2008.²⁹

Bolo leaders admitted that for them to set up the refinery, the military was paid off. According to a leader of the community, 'when the refinery was working it used to refine around 10,000 litres of oil a day. It could only operate with the help of the police and military. The pay-off system to the armed forces and police was well

²⁴ *Nigerian Tribune* 26th March, 2014

²⁵ *Ibid*

²⁶ *Ibid Nigerian Tribune* 26th March 2014

²⁷ *Ibid*

²⁸ *Ibid*

²⁹ *Ibid*

organized. It was a plum posting for the military here. Most army officers posted here had a lifestyle that you could not explain,' said a chief of Bolo community.³⁰ 'This place was booming,' he continued. 'Every house was rented out. People had jobs. Young men came in who knew the art of distillation. What moral right did I have to stop them? It brought us money. The bars were full,' the economy benefited."³¹

The Bolo community illegal refinery was raided by the military in 2013 possibly because the consortium who owned it refused to pay the military authorities more money for protection.³² It was surely not because the refineries were illegal.

On the few occasions, the Joint Task Force (JTF) in the Niger Delta enforces the law against oil theft, it seized bunkered oil, oil refined in illegal refineries and burned the seized product. This was done pursuant to a Presidential Directive. After the amnesty exercise by the federal government, the Presidency declared war on oil theft in the Niger Delta. It mandated the JTF to arrest culprits of oil theft, seize and burn their vessels and illegal products. As at 2013, the JTF was implementing the Presidential Directive to the letter. This approach was not only crude, it was wasteful of a dwindling natural resource and environmentally destructive. There were ways locally refined petrol and kerosene obtained from crude oil thieves could be better refined instead of being burned. For instance, they could be returned to legal oil refineries for re-refining and sale.

According to a chief in the Niger Delta, the only solution to oil theft in the region is to give people a stake in the oil industry. This chief maintained that: 'We propose that the government sets up and licences legal mini-refineries in dozens of villages and sells them oil at cost price so they can profit, provide jobs and diesel for the communities. It would destroy the criminality of oil theft and end the pollution.'³³ He however lamented that this was not an option for the oil companies, who must operate in an increasingly volatile environment bristling with guns. He claimed that Shell planned to spend J1bn building a new, more secure loop for the Trans Niger pipeline to bypass Ogoniland and areas where its present pipeline was regularly sabotaged.³⁴ 'If the government and the oil companies spent a fraction of what they lose to theft on developing Niger Delta communities, they would not have these problems of theft,' said the chief. 'As it stands, the oil industry is run by a very small group of elites for very few people. If nothing changes, the future here is bleak,' he predicted.³⁵

As at 2013, oil was stolen not just from pipelines, but from tank farms, export terminals, refinery storage tanks, jetties, ports, and wellheads. Much of the stolen oil

³⁰ Ibid

³¹ Ibid

³² Ibid

³³ Ibid

³⁴ Ibid

³⁵ Ibid

was exported to foreign refineries or storage facilities abroad. Buyers were from the West Africa sub-region, the US, Brazil, China, Singapore, Thailand, Indonesia and the Balkans. The proceeds were laundered through banks and other channels in various African countries, Dubai, Indonesia, India, Singapore, the US, the UK, and Switzerland.

A part from exporting stolen crude oil to foreign refineries and storage facilities as mentioned above, some of the stolen crude oil end up in illegal refineries that span the length and breadth of the Niger Delta. Stolen crude oil provides most of the feedstock that feed the illegal refineries. In sum, illegal refineries thrive mainly on stolen crude oil, bunkering and vandalization of oil pipelines.

Because of the rampant theft of oil, the federal government has bought into a Fingerprinting technology that can check the menace. The fingerprint technology enables easy identification of crude oil originating fields. International certification of crude oil is for easy tracing of its source to combat the growing incidence of theft of crude oil.

What is being attempted to discourage crude oil theft is what has already been achieved for diamonds through the *Kimberley process* by which legal diamonds are labelled *conflict free* with their origin and ownership validated.³⁶ It is also what has been achieved for ivory using *bomb curve dating*.³⁷

Under term contracts for the sale of crude oil, it is not difficult to know stolen crude oil. Under term contract, Nigerian crude oil is not sold to everyone but only to those who have been awarded the term contract for the purchase of the nation's crude. Even for them, there are conditions to be met before they qualify as purchasers of the nation's crude. After qualifying to purchase the nation's crude under a term

³⁶Diamonds obtained through war are referred to as blood diamond. Blood diamonds also referred to conflict or war diamonds because they originate from war zones and end up being traded on the black market to fund rebel fighters and insurgents. It is also called blood diamonds because the treatment of the workers in the conflict diamond industry is inhumane characterized by rampant disease, violence and starvation.

³⁷ International law bans and makes illegal trade in ivory that is post 1989, but legalizes trade in pre- 1989 ivory. Trying to distinguish legal (pre 1989 ivory) from illegal (Post 1989 ivory) has been nearly impossible until now. The ivory dating technique relies on radioactive isotopes released into the atmosphere during atom bomb tests in the 1950s and 1960s. A ban on above ground testing went into effect in 1963, known as bomb curve dating the technique allows scientist to detect radioactive isotopes within ivory or tusks and thus determine within a year the time the elephant died or was killed. The bomb curve is the fluctuating concentration of carbon -14- heavily radioactive isotope in the atmosphere such the 1950s. This is a simple, accurate and affordable techniques and makes it easier to enforce the ivory ban. Carbon -14 oxide into carbon dioxide in the atmosphere, and in turn was absorbed by Plants, when herbivores such as elephants digest the plants, the carbon-14 values in the plant tissue become locked into their hair, horn, teeth and tusks. By comparing the levels of carbon-14 in ivory samples with the level of the isotope known to be in the atmosphere at various points along the bomb curve, the researcher configure out the date of the sample.

contract, purchasers that so qualify are licensed to do so. From all these, purchasers of the country's crude oil under term contract are known. Whoever tries to sell crude oil that is not among them should be an oil thief no one should buy from. Whoever buys from him should be culpable for receiving stolen property. However, under spot sale of crude oil, the position is different. Under spot sale, anyone can sell and buy Nigerian crude oil. This being the case, sellers and buyers of Nigerian crude oil in the spot market are not known. So a thief of Nigerian crude oil can easily sell it off in the spot market without the buyer from him knowing that what he is buying is stolen property. It is the sale of crude oil in the spot market that the fingerprinting technology targets. Be the allowance made for the easy sale of stolen crude oil in the spot market as it may be, sometimes the low price stolen petroleum is sold in the spot market should be indicative of the character of the oil being sold to any honest and discerning buyer.

The observation of an oil trader in Port Harcourt supports the point made above. 'They give oil to you without documents at a cheaper rate. I was offered 50,000 litres today for 55 naira (20p) a litre. But 75 naira is the cheapest you can get it from the government.'³⁸ According to this observer, the low price the petroleum is offered for sale and the lack of documents of ownership should alert an honest and discerning purchaser that the oil is stolen.

Crude Oil for refined products swaps

Rather than sell crude oil and purchase its refined product, it may be swapped with the refined products directly. NNPC swaps Nigeria's crude oil for refined petroleum products under a crude oil exchange agreement the Corporation has with oil trading companies like Trafigura, Rahamaniya Oil and Gas, Vitol, Sahara Energy Ltd., Aiteo Energy Resources, Mercuria, Etena Oil, Glencore, Taleras Group Nigeria Ltd, and Gas Ltd, Ontario oil and Gas.

Of the 445,000 barrels of crude oil allocated to NNPC per day for the Corporation to meet its domestic crude refining capacity, slightly under 50 per cent is swapped with commodity traders in exchange for petroleum products which are imported into the country. The other 50 per cent is supposedly refined by NNPC's refineries.

Research and Development (R&D)

The Research and Development Corporate Service Unit of the NNPC was established in 1977 to solve the operational and technical problems of the oil and gas industry through application of results of scientific research and the development of technology. NNPC R&D is certified by the International Standard Organization. The mission of NNPC R&D is to carry out research, develop technology and provide

³⁸ *Op. cit.*, 62

services for Oil and Gas industries. The vision of the Division is to become a world-class petroleum research centre driven by innovation and quality.

Research and Development is headed by a Group General Manager. The Corporate Service Unit has three departments namely: Exploration and Production, Refining and Petrochemicals and Support Services. The Department of Exploration and Production has two sections Exploration Research and Services, Petroleum Engineering Research and Services. The Refining and Petrochemical Department has four sections namely: Analytical Research and Services, Environmental Research and Services, Process and Catalysis, Chromatographic Studies. The Support Services Department has five sections namely: Human Resources, Admin Services, Finance and Accounts, Material Management, Technical Services. R&D Departments like departments of other pulled-out NNPC Corporate Service Units, are headed by Managers, while the sections are headed by Deputy Managers.

Engineering and Technology

Through the Engineering and Technology Division, NNPC seeks to actualize Nigeria's dream of indigenizing the oil and gas industry through acquisition and development of petroleum production relevant technology. This Corporate Service Unit along with exploration departments of the NNPC are more critical of making Nigeria take charge of the oil and gas industry than any other.

Information Technology

The Information Technology Corporate Service Unit takes charge of all Information Technology matters. All IT units, departments and staff of the Corporation in all its Corporate Service Units, subsidiaries and at Corporate Headquarters are under the Information Technology Corporate Service Unit.

National Frontiers Exploration Services (NFES)

Discovery of hydrocarbon deposits in Chad, Niger and Sudan with similar geological formations suggest there are such deposits in the Nigerian portion of the Chad Basin. However, search for petroleum in Nigeria should not be limited to the Chad Basin but should extend to the whole Nigerian frontier Inland sedimentary basin which include the Benue trough, Anambra basin, Bida Basin, Adamawa, Sokoto area and Dahomey Basin.

The prospects of finding oil and gas in the frontier regions of Nigeria are good. It is significant that over half of Nigeria's 357,000 square miles is covered by sedimentary basins where oil-bearing rocks are more likely to be found.³⁹ These basins cover most of eastern and Midwestern Nigeria and extend northwards to the confluence of the Niger and Benue River. From there, one arm of the basin extends in a north-easterly direction along the banks of the Benue River to the Chad Basin and beyond, while the other arm extends in a north-westerly direction along the valleys of the Niger River to

³⁹ S.A Madujeeya, Oil and Nigeria's Economic Development (pub. In Oil and Gas Journal, 1974) p. 13 -23

Sokoto Province and beyond. Similar geological features extend far into the continental shelf.⁴⁰

Liquefied Natural Gas

The Liquefied Natural Gas Corporate Service Unit is concerned with the production of liquefied natural gas. All gas departments and units in the Corporation's CSUs, subsidiaries and Corporate Headquarters are pockets of the Liquefied Natural Gas Corporate Service Unit.

Group Public Affairs

The Group Public Affairs Corporate Service Unit interfaces the Corporation with the outside world. All public relations departments and officers of the Corporation in all its subsidiaries, pulled-out Corporate Service Units and at Corporate Headquarters are pockets of the Group Public Affairs Corporate Service Unit.

Group Human Resources

Group Human Resources Corporate Service Unit takes care of personnel issues such as employment of staff, staff training and staff general welfare. All Human Resources Departments in the pulled-out Corporate Service Units, subsidiaries and at the Corporation's Corporate Headquarters belong to the Group Human Resources Corporate Service Unit.

Special Projects

The Special Projects Corporate Service Unit is the unit that takes care of the Corporation's special projects such as coal-power and gas-power special projects. All such special projects in all the subsidiaries, the pulled-out Corporate Service Units of the Corporation are under the Special Projects Corporate Service Unit.

Greenfield Refineries

A greenfield refinery is a refinery that is considered to have minimal impact on the environment. The name greenfield derives from the idea of building facilities on a greenfield such as a farm or a forest land. The opposite to a greenfield is a brownfield which relates to an environmentally unfriendly industry such as a coal refinery. Often, to achieve a greenfield project, it might be necessary to remodel or demolish an existing building.

In 2010, the Nigerian government represented by NNPC after carrying out soil analyses on the viability of greenfield refineries in Kogi, Lagos and Bayelsa state, which showed the refineries were economically viable, made a Final Investment Decision (FID) to build the refineries. Towards this end, NNPC and China State Construction Engineering Corporation (CSCEC) signed an MOU for the construction of greenfield refineries in Lagos, Kogi and Bayelsa state as well as a gas petrochemical plant. Under the terms of the MOU, 80% of the estimated 28.5 billion dollars cost of the four

⁴⁰ Ibid

projects would be funded by a term loan provided by China Export Credit Insurance Corporation (SINOSURE) and a consortium of Chinese banks led by the Industrial and Commercial Bank of China – the world's largest bank, while NNPC was to foot 20% of the cost as equity contribution. The proposed green refineries were envisaged to add 750,000 b/pd of extra refining capacity to the nation's 445,000 b/pd of the nation's existing refineries.

The Nigerian government in 2010 set up the National Refineries Special Task Force (NRST) composed of 22 members and headed by Kalu Idika Kalu to among other things determine the viability of the three Greenfield refineries proposed to be sited in Kogi, Lagos and Bayelsa states. Based on its findings NRST was of the view that the economics of the Greenfield refineries favoured only Lagos. It advised that only the proposed 350,000 b/pd Lagos Greenfield refinery should be pursued vigorously as a priority project to ensure it comes on stream in 2016. The proposed Bayelsa and Kogi refineries may be explored later.

According to the NRST which conducted a diagnostic review of the nation's existing four refineries, rather than build Greenfield refineries, government should revitalize the old refineries and divest its equity from them. The task force also advised the federal government to grant licences for the establishment of private refineries. The Nigerian government accepted the recommendations of the Task Force and has since begun implementing them.

Renewable Energy

Renewable Energy is energy that is replaced by a natural process at a rate that is equal to or faster than the rate it is being consumed.⁴¹ In 2005, a Presidential Directive was given to NNPC to explore renewable energy as a source of energy. The Presidential Directive led to the establishment of the Renewable Energy Corporate Service Unit of the NNPC the same year. The Unit is intended to midwife the birth of renewable energy initiatives of the NNPC. NNPC is to spearhead the launch of a biofuel program in Nigeria which aims at creating a sustainable domestic energy industry that integrates the agricultural sector with the energy sector. The objective of the renewable energy drive of the Nigerian government is to provide energy security for the nation, jobs and economic empowerment of rural communities through bio-fuel production, reduce the nation's over-dependence on fossil fuels, protect the environment and enable Nigeria participate in the Clean Development Mechanism of the Kyoto Protocol.

NNPC has through the Renewable Energy corporate service unit initiated the Automotive Bio-Fuel Program for the production of fuel ethanol and bio-diesel that will be blended with Premium Motor Spirit (PMS) otherwise known as petrol and Automotive Gas Oil (AGO). The resulting new fuel which is to be called *Green*

⁴¹ www.renewableenergyworld.com, visited 11/7/2013

Gasoline will reduce the volume of carbon dioxide released into the atmosphere, improve air quality and ultimately reduce global warming and its catastrophic consequences.

The fundamental objective of the renewable energy initiative is to link the oil and gas sector with the agricultural sector through commercial production of bio-fuels from selected energy crops as blend stock for petroleum fuels while fostering the exploitation of other renewable energy sources. The renewable energy initiative also aims at providing another line of profitable business for NNPC

The mission of NNPC's Renewable Energy Corporate Service Unit is to provide alternative energy by profitably exploiting renewable energy sources and generating carbon credits through emission reduction projects in Nigeria. The vision of the Division is to be a leading player in renewable energy business towards a low carbon economy.

The Renewable Energy Corporate Service Unit like other Corporate Service Units of the NNPC is headed by a GGM. The Corporate Service Unit has five divisions and nine departments. The Divisions are: Planning, Administration and Personnel, commercial Joint Venture and Technical Division. The departments are Operations and Logistics, Finance and Investment, Feedstock, Sales and Marketing, Contract and Admin, Operations and CDM, Quality Assurance, Business Development and Technical Services Department. The Divisions are headed by GMs, departments by Managers while sections are headed by Deputy Managers.

Except for the fact that oil products will be blended with bio-fuel products, the renewable energy assignment should have been given to the Energy Commission of Nigeria. For NNPC thriving on oil and gas cannot be expected to be the midwife of a competitor that may undermine it.

Nigerian Content

Local Content Corporate Service Unit was the principal reason for the creation of NNPC. In this sense the whole NNPC is a Local Content Corporate Service Unit. The effort of Nigerian government to ensure local content in the oil industry is both in oil exploration and production contracts and MOUs with IOCs. It is also in Nigerian statutory provisions. Of all IOCs SPDC has the most advanced local content policy.

As at 2013, Nigerians own 52% of the country's 173 active oil blocs while foreign companies owned 48%. Of the country's total 388 oil blocs only 173 had been awarded as at 2013 while 215 blocs were yet to be awarded. Of the 173 awarded, Nigerians owned 90 while foreigners owned 83. Unfortunately, however, all the oil blocs awarded to indigenous players accounted for only 6% of the country's total crude oil production while the 83 awarded to foreigners account for 94% of the total output.⁴²

⁴² *Vanguard* newspaper 9th May 2014 p.1

As at 2013, Nigerians produced 150,000 b/pd (6%) while foreigners produced 2.35m b/d (94%). DPR blamed poor Nigerian performance on the lackadaisical attitude of Nigerian oil players towards the development of their oil blocs. According to DPR, many Nigerian players have not commenced any serious production activity on their blocs since they were awarded. He lamented that it appeared people just wanted to own oil blocs and put it on their complimentary cards.⁴³

Pursuant to achieving Nigerian content in the oil and gas industry, the Nigerian Content Corporate Service Unit of the NNPC has listed 23 categories of work that can be done only by Nigerians.

- i. FEED and detailed engineering designs for all projects are to be domiciled in Nigeria.
- ii. Project Management Teams and Procurement Centres for all projects in the Nigerian oil and gas industry must be located in Nigeria.
- iii. All operators and project promoters must forecast procurement items required for projects and operational activities and forward the materials list to the Nigerian Content Division (NCD) on or before 31st January every year. Also a Master Procurement Plan (MPP) for ongoing and approved projects should be submitted to NCD on or before the 31st of January every year.
- iv. Fabrication and integration of all fixed (offshore and onshore) platforms weighing up to 10,000 tons are to be carried out in Nigeria.
- v. Fabrication of all piles, decks, anchors, buoys, jackets, pipe racks, bridges, flare booms and storage tanks including all galvanizing works for Liquefied Natural Gas process plants are to be done in Nigeria.
- vi. All flow-lines and risers must be fixed and fabricated in Nigeria except for special cases to be demonstrated and approved by NCD
- vii. Assembling, testing and commissioning of all subsea valves, Christmas trees, wellheads and system integration tests are to be carried out in Nigeria.
- viii. All FPSO contract packages are to be bid on the basis of carrying on topside integration in Nigeria.
- ix. All third party services relating to fabricating and construction including but not limited to NDT, mechanical tests, PWHT as well as certification of welding procedures and welders must be carried out in Nigeria.
- x. All operators and project promoters must ensure that recommendations for contract awards in respect of all major contracts being forwarded to NNPC/constituted Boards of Oil and Gas companies for approval must include evidence of binding agreement by the main contractor with Nigerian content subcontractors.
- xi. All low voltage earthing cables of 450/750 V grade and control, power, lighting cables of 600/1000 V grade must be purchased from Nigerian cable manufacturers.

⁴³ www.dproilbooks.com

- xii. All line-pipes, sacrificial anodes, electrical switchgear paints, ropes, pigs, heat exchangers and any other locally manufactured material and equipment must be sourced from in-country manufacturers.
- xiii. All carbon steel pressure vessels shall be fabricated in Nigeria.
- xiv. All seismic data acquisition projects, all seismic data processing projects, all reservoir management studies and all data storage and management services are to be carried out in Nigeria.
- xv. All wastes management, onshore and swamp integrated completions, onshore and swamp well stimulations, onshore and swamp fluid and mud solids control, onshore measurement while drilling, logging while drilling and directional drilling activities are to be performed by indigenous companies or by indigenous companies having genuine alliance with multinational companies.
- xvi. Coating of all pipelines and threading of all oil country tubular goods are to be carried out in Nigeria.
- xvii. All concrete barges and concrete floating platforms are to be fabricated in Nigeria.
- xviii. Operation and maintenance of offshore production units – FPSO and FSO in particular, are to be performed by Nigerian companies.
- xix. All international codes and standards used in the industry are to be harmonized to support utilization of locally manufactured products such as paints, cables, steel pipes, rods, sections, ropes etc.
- xx. Operators and project promoters must ensure that recommendations for contract awards for all drilling contracts shall include a binding agreement at technical evaluation stage for the sourcing of barite and bentonite from local manufacturers.
- xxi. All operations and projects in the oil and gas industry must demonstrate strict compliance with provisions of the Nigerian Insurance Act and must submit a certificate of compliance issued by NAICOM to NCD.
- xxii. All operations and projects in the oil and gas industry must demonstrate compliance with the provisions of the Cabotage Act.
- xxiii. All operators and service providers must make provisions for targeted training and understudy programs to maximize utilization of Nigerian personnel in all areas of their operations. All operators must therefore submit detail training plans for each project and its operations.

Nigerian Oil and Gas Industry Content Development Act 2010

The Nigerian 2010 Local Content Act established the Nigerian Content and Monitory Board with powers to implement provisions of the Act, make procedural guidelines and monitor compliance by operators within the oil industry.

Section 3 of the Act provides that Nigerian Independent operators shall be given first consideration in the award of oil blocs, oil field licences, oil lifting licences and all projects for which contracts is to be awarded in the Nigerian oil and gas industry subject to the fulfilment of conditions specified by the Minister. The Act goes on to provide that there shall be exclusive consideration for Nigerian indigenous oil services

companies, which demonstrate ownership of equipment, Nigeria personnel and capacity to execute works tendered for bids. This exclusive consideration shall be more in oil works and in swamps and land areas. Compliance with the provision of the Act and promotion of Nigerian Content development shall be a major criterion for the award of licences permits and any other interest in bidding for oil exploration, production, transportation and development.⁴⁴

The Nigerian Content Act has a manual with 1,000 jobs reserved only for Nigerians. This is calculated towards giving the country de facto control of the industry it so desires to control.

It was pursuant to Nigerian content development that the Federal Military Government in 1996 enacted the Marginal Fields Decree which allows farming out of marginal fields from existing concessions, abandonments, relinquishments and surrenders. Technically a marginal field is an oil reserve or field, which due to geologic, geographic and technological inhibitions is deemed not viable for development by the lease owner. It is also a field which cannot produce up to 10,000 b/pd – the NNPC's benchmark for commercial crude oil production.⁴⁵ As at 2013, there were over 183 marginal fields located in concessions held by shell, Mobil, Chevron, Elf, Agip and Texaco Ash and NPDC with estimated reserves of N8 million barrels of crude oil.⁴⁶

The pressure for the development of marginal fields in recent time stems from the entry of small unintegrated oil companies (the independents) into the exploration and production phases of the Nigerian oil industry and the policy of the government to increase oil reserves from 37 billion barrels to 40 billion barrels and daily production from 2 million b/pd to 4 million b/pd.

A 1996 Marginal Fields Decree entitles the federal government to recover marginal fields from their original holders and allocate them to marginal field bidders. DPR issued the following guidelines as the criteria for allocating marginal fields:

- i. Existing holders of concession, excepting indigenous oil companies are excluded from applying or acquiring participatory interest in any marginal field.
- ii. Indigenous oil corporations holding concessions are to relinquish their existing blocs in order to be considered.
- iii. Marginal fields may be farmed out⁴⁷ only to citizens of Nigeria having a company incorporated under the laws of Nigeria. Such citizens must be qualified and knowledgeable in the oil industry.
- iv. The Nigerian entrepreneur may have foreign technical partner who must not have more than 40% equity participation.⁴⁸

⁴⁴ Section 37 of the Nigerian Content Act

⁴⁵ See online dictionary.

⁴⁶ www.nigeriaoilreserves.com

⁴⁷ A concession holder can farm out his concession to a marginal field owner but he cannot farm in an area that is not his.

Fiscal incentives for marginal fields operators include:

- i. Payment of 65.75% PPT against 85.5%.
- ii. Reduced royalty rates of 20% for land and swamp concessions, 18.5% for territorial waters and continental shelf up to 100 metres water depth; 16.65% for increase beyond 100 metres water depth to 200 metres.
- iii. Permission for indigenous prospecting companies allocated marginal fields in areas from 201 to 500 metres, 501-500 metres, 801-1000 metres, and in excess of 1000 metres depths to pay royalty at 12,8,4 and 0% respectively.

Investors in marginal fields are to pay N100,000 application fee. A successful applicant will pay 10,000 dollars per field to the company in whose existing concession the field is located. Also he will pay a premium of N250,000 to the federal government for the field.

Section 285 of the Petroleum Industry Bill provides that participation by the federal government in an oil licence or oil mining lease shall not be applicable to petroleum operations carried out by indigenous petroleum companies whose aggregate production from petroleum operations is not more than twenty-five thousand barrels per day of crude oil or its natural gas equivalent. An indigenous petroleum company whose aggregate production of crude oil and gas is not more than twenty-five thousand barrels per day or its natural gas equivalent may be allowed to produce up to the technical allowable output set for the licence or lease by the Inspectorate.⁴⁹

The 2012 Bill further provides that the Minister shall in consultation with the Inspectorate issue regulations or guidelines prescribing clearly defined targets and programs for continuously increasing the level of indigenous participation in the Nigerian petroleum industry. Such guidelines shall include targets for indigenous petroleum reserves; and measurable parameters for measuring the level of indigenous participation.⁵⁰

Stringent conditions for allottees of marginal fields

- i. Verifiable efforts must be made within 12 months of the grant to meet the minimum work program.
- ii. Such field must be developed and produced within 5 years.
- iii. Renewal of licence after five years will only be granted if 70% of the work program has been done satisfactorily.
- iv. Development of such fields will be approved along with gas utilization plan and environmental considerations.

All marginal fields are to be developed on sole risk basis. This means that the investors will fund the entire exploration and production costs. The owner of a

⁴⁸ See section 4 of the Nigerian Marginal Decree Act

⁴⁹ See section 286 of the PIB

⁵⁰ Ibid section 287

concession can farm out a marginal field to another person subject to the consent of the Head of State.⁵¹

The *Nation* newspaper on 12th June 2012 reported that production of crude oil by marginal field operators in Nigeria hit 22,000 b/pd. Citing the former adviser on petroleum matters to late President Umaru Musa Yar'Adua, Dr. Emmanuel Egbogah who was also the chairman of Emerald Energy Resources Ltd, the paper reported Egbogah as saying that the marginal field policy of the federal government was paying off. Egbogah, the paper reported however lamented that of 31 indigenous companies licensed in 2004 by the Federal Government to operate 24 marginal fields only 7 of these companies produced the 22,000 b/pd with 2 of the 7 accounting for about 60% of the production.

The enactment of a law by the Nigerian government allowing for the farming out of marginal fields was seen by concession owners as breach of their concession agreement with the government. However, this is not necessarily so. Licenses and leases that grant the right to explore and mine oil always contain relinquishment provisions in respect of areas not explored or mined. It is such unexplored or unmined portions of the licensed or leased area that is farmed out. At any rate, a licence or lease being a *profit a prendre*, the privilege granted by it can legitimately be curtailed at any time by farming out.

In 2013, Shell, Mobil and Total divested themselves of some of their investments onshore so that they can expand their operations offshore. This left the oil blocs the IOCs divested their interests from for indigenous oil industry to acquire. This no doubt helps the local content drive by the Nigerian government. DPR must however ensure that indigenous oil companies that acquired such divested oil blocs operate them and produce at least the same oil the IOCs formerly operating them used to produce.

All said and done, anyone conversant with the Nigerian oil and gas industry knows that as far as staffing and management are concerned, the industry is dominated by Nigerians. As at 2014, the M.D of Shell Petroleum was a Nigerian. Any meeting between NNPC management or staff with an IOC such as Shell or Mobil management or staff is a meeting between Nigerians. There is always no white face in such meetings. So, local content has been achieved as far as staffing and management of the industry are concerned. Yet, Nigeria is not anywhere near control of the industry. The industry is still firmly and almost totally in the control of international oil corporations. The reasons are:

Nigerians either as staff or managers are mere onlookers in oil and gas operational matters. In Joint Venture Agreements, IOCs because of their technological knowhow are always the operators while NNPC because of its lack of technological knowhow is always consigned to the onlooking or at best the monitoring role of a non-operator.

⁵¹ Section 4 (2) of the Marginal Decree

As a non-operator, NNPC is not involved in operations and has to work with what the operator tells it is the cost of operation. This way the nation is often ripped off by IOCs. Though the IOCs are staffed and on the face of it looked like they are managed by Nigerians, they are in fact controlled and managed by their parent corporations back in their home nations. The Nigerian management appendages have little or no control in critical decisions of the IOCs they ostensibly are managers of.

Even where Nigerians could give the nation some measure of control of the oil and gas industry by getting seriously involved in field operations and management matters, indolence and corruption reduces them to mere onlookers and implementers of what the IOCs tell them.

For lack of a better local context example, Nigeria's condition in the oil and gas industry may be likened to that of Esau and Jacob. The hand is that of Esau, but the voice is that of Jacob. In real terms, international oil corporations control the nation's oil resources while Nigerians appear to be in charge.

Nigerian content is driven by the Nigerian Content Development and Monitoring Board (NCDMB), which exists side by side with the Nigerian Content Corporate Service Unit of the NNPC. There is also a Nigerian Content Development Fund (NCDF) administered by the NCDMB. The NCDF is used to fund oil and gas service companies in Nigeria such as oil and gas engineering firms, oil and gas metal fabricators and oil and gas transport companies. As at 2014, the NCDF has an accumulated sum of 350 million dollars.

Upstream Business Development

The Upstream Business Corporate Service Unit is the Service Unit in charge of upstream business such as contracts for exploration and production of petroleum. IDSL, NAPIMS and NETCO are all pockets of the Upstream Business Development Corporate Service Unit.

Downstream Business Development

The Downstream Business Development Corporate Service Unit is the Corporate Service Unit that takes care of downstream business like refining, transportation of refined petroleum, marketing and distribution. The refineries and NNPC Retail are all pockets of the Downstream Business Development Corporate Service Unit.

Medical Services

Medical Services Corporate Service Unit takes care of the Corporation's medical services. The Corporations clinics are all pockets of the Medical Service Corporate Service Unit. All clinics in all the pulled out Corporate Service Units and subsidiaries and at the Corporation's Corporate Headquarters are part of the Medical Services Corporate Service Unit.

Corporate Planning and Development

Corporate Planning and Development Corporate Service Unit takes care of corporate related matters as long term corporate development and corporate image

enhancement. All Corporate Planning and Development units in the subsidiaries and pulled out corporate service units and at the Corporation's Corporate Headquarters are pockets of the Corporate Planning and Development Corporate Service Unit.

Gas Master Plan

The Gas Master Plan Corporate Service Unit is concerned with developing the nation's gas resources to compete with oil as revenue earners and to replace wood fuel as clean cooking fuels. All gas units and departments in the pulled out Corporate Service Units and subsidiaries at the Corporations' Corporate Headquarters are pockets of the Gas Master Plan Corporate Service Unit.

Power

The Power Corporate Service Unit is concerned with power initiatives of the Corporation such as the coal-power and Gas-power initiatives. All power units in all the pulled out Corporate Service Units and subsidiaries of the Corporation are pockets of the Power Corporate Service Unit.

Finance

Finance Corporate Service Unit takes care of raising funds to execute the Corporation's projects. Budgeting sourcing funds to meet cash calls, pay staff and other overheads are done by the Finance Corporate Service Unit. All Finance and Accounts Departments in all the subsidiaries of the Corporation are pockets of the Finance Corporate Service Unit.

Accounts

Account Corporate Service Unit is responsible for ensuring that funds raised are judiciously accounted for. All Finance and Accounts Departments in all the pulled-out Corporate Service Units and subsidiaries of the Corporation are pockets of the Account Corporate Service Unit.

Audit

The Audit Corporate Service Unit audits the accounts of the Account Corporate Service Unit. All Audits Departments in all the pulled-out Corporate Service Units and subsidiaries of the Corporation are pockets of the audit Corporate Service Unit.

Regulatory and Policy Compliance

The Regulatory and Policy Compliance Corporate Service Unit is the CSU that discharges the regulatory function of the Corporation conferred on it by the NNPC Act. The Petroleum Inspectorate is a pocket of this Corporate Service Unit. So are all Divisions and departments in the Corporation's pulled-out Corporate Service Units, the subsidiaries and at Corporate Headquarters pockets of the Regulatory and Policy Compliance Corporate Service Unit.

It is important to note that while there are moribund or non-functional NNPC subsidiaries, there are scarcely any such CSUs. The reason is clear. While subsidiaries are standalone entities, CSUs are the sub-divisions of the whole Corporation. As a

standalone entity, a subsidiary without any business will be moribund or non-functional, while a CSU particularly the diffused CSU would most likely be functional because the corporation that it is a sub-division of is functional.

It is also worth noting that a CSU or a subsidiary can belong to more than one CSU depending on the spread of its activities or concern. A subsidiary however, can only belong to one subsidiary.

Each CSU is headed by a Group General Manager (GGM). While the GGMs of the pulled-out CSUs like NAPIMS are in the respective pulled-out CSUs, the GGMs of the diffused CSUs are in the Corporation's Corporate Headquarters in Abuja. Within pulled-out CSUs, there are divisions headed by General Managers, Departments headed by Managers, and sections headed by Deputy Managers.

All said and done, it is worth drawing attention to the overlapping functions of NNPC's subsidiaries and CSUs. For instance, IDSL duplicates NETCO's work by offering petroleum engineering services. NAPIMS acquisition of concession in the Chad Basin infringes on NPDC's function.

NNPC's subsidiaries are supposed to depend entirely on revenue they generate. Refineries are supposed to be paid refining fees paid by NNPC. PPMC is to charge tariff for transportation of crude and refined oil through its pipeline networks. NETCO is to derive its revenue through consultation and engineering work done for NNPC and its JVs and other clients; NPDC is to thrive as an upstream exploration and production outfit operating its own concessions; IDSL is to generate money from data services it provides to oil companies on a commercial basis.

Unfortunately, the above self-sufficiency has failed to materialize for most of the CSUs and subsidiaries. The reason for this is that the Corporation is operating a unified accounting system, which does not require the subsidiaries to independently raise and invest funds. Instead the revenue the subsidiaries raised go to the parent company even though they are limited liability companies with separate Boards of Directors.

The result is that NNPC is hampered by the need to subsidize almost all its subsidiaries by subventions and loan guarantees, which they are often unable to repay. For example, the Nigeria Gas Company NGC charged with gathering, recovering and marketing natural gas and its derivatives to both the domestic and export markets all things being equal ordinarily should be doing well. However, this is not the case. In 2003, it was able to collect only 65% of its tariffs from its customers which were mainly government agencies like NEPA (now Power Holding Company of Nigeria (PHCN)), which owed it 30.7 million dollars.

There are two models of corporations: the holding, federating, or confederating corporation and the unitary corporation. NNPC seems to have adopted the unitary corporation that operates like a single company despite its size and divisions.

Strategic Business Unit (SBU)

A Strategic Business Unit (SBU) is a profit-centred outfit of a corporation. It focuses on marketing and profit making. SBUs do have discrete marketing plan, analysis of

competition and marketing campaign even though they are part of a larger business entity. SBU is usually a business unit within a large corporation, though it may be a business unto itself or a branch. Corporations may be composed of multiple SBUs each of which is responsible for its own profitability. All NNPC subsidiaries are SBUs. These include NPDC, IDSL, NETCO, PPMC, Retail Ltd and all the refineries.

Corporate Service Unit

A corporate service unit as the name implies is a service centred unit that is not as profit focused as an SBU. NAPIMS, Research and Development, for instance, are CSUs.

Institutional Structures under the Petroleum Industry Bill 2012

Under the Petroleum Industry Bill, NNPC will become the National Oil Company (NOC).⁵² The Minister is directed under the Bill to not later than three months after the coming into effect of the Bill as law, take steps under the Companies and Allied Matters Act to incorporate the National Oil Company, which shall be vested with certain assets and liabilities of the NNPC. Section 152 of the Bill went on to provide that the assets and liabilities held by the NNPC on behalf of the Federal Government of Nigeria, excluding the government's interests in unincorporated Joint Ventures shall be vested in the NOC within twenty-four months from the effective date. It is not clear if effective date here refers to the date the Bill effectively becomes law or the date of incorporation of the NOC. All subsidiaries of the NNPC except perhaps the Nigerian Gas company would become subsidiaries of the National Oil Company.

The Bill requires the federal government to within six years from the date of incorporation of the NGC divest itself of forty-nine per cent of its shares in the National Gas Company.⁵³ The Petroleum Industry Bill established the National Gas Company (NGC) as a parallel institution to the NOC, charged to do for the gas industry what the NOC is charged to do for the oil industry. Section 159 of the PIB requires the Minister of Petroleum to within three months of the coming into effect of the PIB as law, take steps under the Companies and Allied Matters Act to incorporate the NGC.

The Bill provides that the assets and liabilities of NNPC on behalf of the Federal Government, excluding the Nigerian Gas Company, shall become vested in the National Gas Company within twenty-four months from the effective date.⁵⁴ Like with the NPAMC and NOC, it is not clear which date is effective date in this provision. Be this as it may if the Nigerian Gas Company does not fall into the National Gas Company, it means it will exist as a parallel gas company with the

⁵² See section 148 of the Bill

⁵³ See section 151 PIB

⁵⁴ Ibid. section 163 (1)

National Gas Company. This means there would be two gas companies owned by the Nigerian government; worst, bearing similar names, and at a time the government desires to divest itself of its equity holdings in the gas as in the oil sector. Perhaps a way out of this untidy situation is for the Nigerian Gas Company to become a subsidiary of the National Gas company and for its name to be changed to a less resembling name.

The Bill requires the federal government to, within six years from the date of incorporation of the NGC, divest itself of forty-nine per cent of its shares in the National Gas Company.⁵⁵ The divestment of government's equity is a move towards privatization and deregulation of gas prices.

The Petroleum Industry Bill retains the Petroleum Technology Development Fund, the Petroleum Equalization Fund, and establishes the Host Communities Fund.

The Petroleum Technology Development Fund is a body corporate with perpetual succession. It will obtain its funds from its unexhausted funds before the passing of the Petroleum Industry Bill.⁵⁶ Another source of funds is from grants from multilateral agencies and bilateral institutions.⁵⁷ The Fund is to be used to train Nigerians to qualify as professionals, technicians and craftsmen in the fields of engineering, geology, science, management and other related fields in the petroleum industry. The Fund is to be used to provide scholarships and bursaries for the training of the above professionals. It may also be used to make suitable endowments in Nigerian universities.⁵⁸

The Equalization Fund is a Fund into which net surplus revenue from petroleum products marketing shall be paid into. Also such funds as may be provided by the federal government for the purpose of the Equalization Fund's may be paid into the Fund.⁵⁹ The Equalization Fund's main duty is to hold the Equalization Fund in safe custody and trust, for the reimbursement of petroleum products marketing companies suffering loss solely and exclusively as a result of the sale by them of petroleum products at uniform benchmark prices throughout the country.⁶⁰ The Equalization Fund shall come to an end when the government decides that petroleum product markets have become effectively deregulated.⁶¹

The Host Communities Fund is established by the Petroleum Industry Bill to provide economic and social infrastructures in the petroleum producing areas. Under the Act, every upstream petroleum producing company is required to remit to the Petroleum Host Communities Fund on a monthly basis ten per cent of its net profit as follows:

⁵⁵ Ibid section 162

⁵⁶ See section 74 of the Petroleum Industry Bill

⁵⁷ Ibid

⁵⁸ Ibid section 76

⁵⁹ Ibid section 100 (1)

⁶⁰ Ibid section 103

⁶¹ See section 100 (4) PIB

- i. For every profit derived from upstream petroleum operations in onshore and shallow water areas for the benefit of the host communities where such onshore and shallow areas situate.
- ii. For profit derived from upstream petroleum operations in deep water areas for the benefit of the petroleum producing littoral states.⁶²

The Act further provides that where an act of vandalism, sabotage or other civil unrest occurs that causes damage to any petroleum facilities within a host community, the cost of repairs of such facility shall be paid from the Petroleum Host Community Fund entitlements unless it is established that no member of the community is responsible.⁶³

In all, the PIB established nine institutions in the oil and gas industry, has nine objectives and repeals nine laws. The three nines provide the three stones of the hearth the Bill sits on.

NNPC and the need for Reform

NNPC was established, not only to act as a policy guide for the government in petroleum matters, but also to engage in various forms of commercial ventures. The Corporation's commercial ventures would provide it additional revenue thereby making it less dependent on government grants and allocations.

However the Corporation lacked the vision and background to sustain any meaningful commercial enterprise, apart from its role in joint venture exploration and production. The main factor responsible for the corporation's commercial failure is the civil service culture pervading the Corporation. Presence of civil service culture in the Corporation impedes entrepreneurial vision and disposition. Private enterprise is a taboo of sort in the Corporation, as long as Federal allocations are readily available for disbursement. Absence of entrepreneurial culture that would boost profitable commercial venture is a second major bane of NNPC after corruption. Despite the fact that NNPC has powers to operate on a commercial basis like profit oriented private companies, it still operates like a commercial public corporation. The result is that the Corporation has progressively stagnated in terms of profitable commercial ventures and relies heavily on government funding. Privatization of NNPC will reduce government's role and at the same time induce greater competition.

When compared with national oil companies of other nations which NNPC was established about the same time with, the Corporation ranks bottom with its peers. Over the years, NNPC has become a conduit pipe for siphoning of the nation's oil revenues. Hardly can corruption be discussed in Nigeria without NNPC being mentioned.

Because of corruption, NNPC's performance has been dogged by limited financial or revenue resources, low performance in management and high

⁶² Ibid section 118 (1)

⁶³ Ibid section 118 (5)

administrative costs. It is against this background that there is need to reform the Corporation for it to properly discharge its functions.

There are also high and disproportionate administrative costs, which in turn compounds the present financial position of the corporation. The high administrative cost arises to some extent from the high turnover of retiring top management staff of the Corporation with mind-blowing emoluments.

Most of the reforms needed to turn NNPC around have been incorporated in the Petroleum Industry Bill. These include making the Corporation a limited liability enterprise and weaning it from dependence on annual budget allocations. On assumption of private enterprise status under the PIB, the new NNPC called National Oil Company (NOC) under the Bill will be subject to the regulatory powers of UPI and DPRA. This way it is hoped the Corporation will generate more profitability than currently.

The major reason NNPC is always in financial difficulties is because its budgetary allocation from the government is hardly enough for it to meet its obligations. The Corporation finds itself in this position because it fails to engage in profitable commercial ventures, which would have boosted its revenue and financial resources. Under the PIB, NOC to replace NNPC is required to engage in self-funding through equity or debenture holdings as is the case with Nigerian Liquefied Natural Gas (NLNG). Under the PIB, NOC will be substantially privatized. It will engage in business not as a government parastatal, but like the International Oil Corporations that have no government backing.

All said and done, what the PIB tries to do with regard to institutions is to clarify the roles of different institutions in the oil and gas industry. Policy makers, regulators and operators are clearly defined by the PIB.

International and Indigenous Oil Corporations

Shell Petroleum Development Company

Shell Petroleum Development Company (SPDC) is the pioneer and leader of the petroleum industry in Nigeria. It has the largest acreage in the country from which it produces some 39 per cent of the nation's oil.¹ The company's operations are concentrated in the Niger Delta and adjoining shallow offshore areas where it operates in an oil mining lease area of around 31,000 square kilometres.² As at 2013 SPDC had more than 6,000 kilometres of pipelines and flowlines, 87 flowstations, 8 gas plants and more than 1,000 producing wells.³ The company employed more than 4,500 people directly of whom 95 per cent were Nigerians.⁴ Some 66 per cent of the Nigerian staff members were from the Niger Delta.⁵ Another 20,000 people were employed indirectly through the network of companies that provided supplies and services. SPDC is the operator of a Joint Venture Agreement involving the Nigerian National Petroleum Corporation (NNPC), which holds 55%, Shell 30%, Total Exploration and Production Nigeria Limited 10% and Nigerian Agip Oil Company limited (NAOC) 5%. SPDC mission is to be the operator of first choice in Nigeria through its commitment to strong economic performance and to every aspect of sustainable development.

SPDC was originally known as Shell D'Arcy and later as Shell-BP, which was jointly financed by the Royal Dutch/Shell Group of Companies and the British Petroleum (BP) Group on an equal basis. The Company discovered the first commercial oil field in the country at Oloibiri Bayelsa State, in 1956 and through a sustained exploration effort had since discovered more oil fields that have firmly established Nigeria as one of the world's major crude oil producers with significant gas potentials.

Shell has been working in Nigeria since 1936, and as at 2013 dominated gas production in the country. The Niger Delta, which contains most of Nigeria's gas

¹ www.shelloil.com

² www.shell.com.ng

³ Ibid

⁴ Ibid

⁵ Ibid

resources houses most of Shell's hydrocarbon assets. By 2013, together with its Joint Venture Partners, SPDC was capable of producing some 1 million barrels of crude oil per day on an average. Through its community investment program, SPDC tries to demonstrate its commitment to improving the quality of life for all those who live and work in the Niger Delta.

Mobil Producing Nigeria

Mobil Producing Nigeria (MPN) is one of the largest oil producers in Nigeria. The company commenced operations in Nigeria in 1955 under the name Mobil Exploration Nigeria Incorporated (MENI). MPN operates a Joint Venture with the Federal Government of Nigeria, through the Nigerian National Petroleum Corporation. The Federal Government has a 60 percent share, with the remaining 40 percent owned by MPN.

Since 1961 when the company was granted Oil Prospecting License (OPL) offshore in the present Akwa Ibom State, MPN has made visible contributions to the development of Nigeria's oil and gas industry. As at 2013, the company and its joint venture partner, NNPC, operated over 90 offshore platforms comprising of about 300 producing wells at a capacity of over 550 thousand barrels a day of crude oil, condensate and natural gas liquids (NGL).

By 2013 a series of projects by the joint venture were targeted to increase the average production level to above one million barrel per day. The East Area Additional Oil Recovery project represented a major investment in a mature operation to extend field life, increase oil recovery and eliminate non-routine gas flaring by re-injecting produced gas. The East Area Gas Compression Facilities platform was set in place at the end of 2005. It set a world record when it was installed in open water using Float-Over Technology. The Natural Gas Liquids (NLG II) project, which had capacity to contribute 45 KBD of natural gas liquids to Mobil's total production, was an expansion of the NNPC/MPN Joint Venture's successful Oso-NGL project. It involved the engineering, procurement, construction, start-up and commissioning of an offshore NGL extraction platform, undersea pipeline infrastructure and expansion of the JV's existing onshore fractionation and storage facilities at Bonny River Terminal.

Together with the NNPC, MPN maintains a very active community relations program. It has made substantial contributions in the areas of health, education, sports, water supply, electricity and roads, especially around its operational bases in Akwa Ibom and Rivers States. By 2011, the NNPC/MPN joint venture began focusing more prominently on sustainable development projects aimed at promoting economic independence for communities in the IOC's areas of operations. Through partnerships with reputable NGOs and other organizations, the JV is involved in capacity building, micro-financing of small and medium enterprises, healthcare and agriculture. The NNPC/MPN Joint Venture awards 500 scholarships to undergraduate students in Nigerian Universities.

Chevron Nigeria Limited

As at 2013 Chevron was the third-largest oil producer in Nigeria and one of its largest investors, spending more than \$3 billion annually. In Nigeria, Chevron does business through its subsidiary Chevron Nigeria Limited. The company operates under a joint-venture arrangement with the Nigerian National Petroleum Corporation and has assets on land, swamp and near-offshore concessions covering approximately 2.2 million acres (8,900 sq km) in the Niger Delta region. Chevron also has extensive interests in Nigeria's deepwater oil exploration and production. The Agbami Field belonging to Chevron is one of Nigeria's largest deepwater oil discoveries. The company also has an interest in another deepwater oil development project, the Usan project. Chevron provides career opportunities for Nigerians hired as employees and workers.

Total Exploration and Production Nigeria Ltd

Established in 1962, TOTAL Upstream activities are carried out by three subsidiary companies in Nigeria, TOTAL E&P Nigeria Limited (TEPNG) and TOTAL Upstream Nigeria Limited (TUPNI) for oil/gas, and TOTAL LNG Limited for gas only. The company claims to be a committed partner in Nigeria's growth and improvement: that what it takes out of the ground, it puts into the Nigerian economy. The Corporation's long term vision is to remain Nigeria's preferred operator, promoting the nation's economy through its various activities, and all the while contributing positively to the sustainable development of its communities.

As a subsidiary of Total, the fourth largest multi-national oil group worldwide, Total Nigeria receives solid support from the Total Group, and can draw from its vast pool of technical expertise and experience. In Nigeria, the Corporation's experience goes back more than 40 years to when it first established its local presence. Like other international oil corporations operating in the Niger Delta, Total Upstream from time to time embark on host communities programs for education, health, local business, arts and culture. According to the Corporation, it is committed to assisting Nigeria in its path to sustainable development for its communities, where it plans to stay for the long haul. Safety and environmental protection Total claims are key criteria in its oil operations. It claims to carry its upstream operations with a human face. In this regard that it encourages its staff to respect the communities in which they work.⁶

While in the business for finding, extracting, producing and exporting petroleum and gas, Total Upstream claims to also be dedicated to improving the Nigerian people's quality of life; that it works in close cooperation with international non-governmental organizations (NGOs), the United Nations Development Programme (UNDP) and government and community representatives. Total Upstream claims to provide skills development for young people, scholarships,

⁶ www.total.com

upgrades of educational infrastructure, water supply, communication, electricity, health care services and facilities, roads, income generating projects and agriculture.

Total is the world's fourth-largest publicly-traded integrated oil and gas company¹, with operations in more than 130 countries spanning all aspects of the petroleum industry, including Upstream operations of oil and gas exploration, development and production, and Downstream operations of refining, marketing, trading and shipping of crude oil and petroleum products.

Total also produces base chemicals such as petrochemicals and fertilizers and specialty chemicals for the industrial and consumer markets. The IOC also has rubber processing, resins, adhesives and electroplating plants. In addition, Total has interests in the coal mining and power generation sectors. The IOC also claims to be helping to secure the future of energy through the IOC's commitment to developing renewable energies, such as wind, solar and bio fuels.

The Gas & Power Division of Total encompasses the marketing, trading, transport and storage of natural gas and liquefied natural gas, Liquefied Natural Gas re-gasification and the maritime transport and trading of liquefied petroleum gas (LPG). It also includes power generation from combined cycle gas plants and renewable energies, the trading and marketing of electricity as well as the production and marketing of coal.

No.1 in Western European refining/marketing and No.1 in African marketing, TOTAL directly operates 13 of the 27 refineries in which it has interests. TOTAL's retail network of nearly 17,000 service stations is mainly located in Europe and Africa. In 2006, TOTAL's refining capacity was approximately 2.7 million barrels per day and approximately 3.8 million barrels per day sale of petroleum products. Outside Europe, TOTAL focuses on fast-growing markets in Africa where the Corporation is the No.1 marketer with 11% market share, around the Mediterranean Rim and in Southeast Asia.⁷

TOTAL distributes lubricants in more than 150 countries and has refuelling stations in over 500 airports worldwide. The IOC handled an average of 5 million barrels per day in 2006. It is one of the world's largest integrated producers of petrochemicals and a global leader in each of the IOC's markets. It is in exploration and production operations in 42 countries; Producing 2.36 million barrels of oil equivalent per day.

AGIP

Nigerian Agip Oil Company Limited (NAOC) is an Italian International Oil Corporation. AGIP is in a Joint Venture with NNPC, and Conoco Phillips. The shareholding of the Joint Venture is NNPC 60%, Agip 20% and ConocoPhillips 20%.

⁷ Ibid

As at 2013, this Joint Venture was producing 150,000 b/pd mostly from small onshore oil fields.

Texaco

Texaco is an American International Oil Corporation. By 2013, it was merged with Chevron another American IOC. Texaco-Chevron operates a Joint Venture with NNPC. The shareholding of the JV is NNPC 60%, Texaco 20% and Chevron 20%. As at 2013, this Joint Venture produced about 60,000 b/pd from five offshore oil fields.

Dubri Oil

This is the oldest Nigerian indigenous oil company. It began operations in 1987 and has remained in operations since then. Though first in time, Dubri has since been overtaken by indigenous oil companies like Famfa Oil, South Atlantic Petroleum and Consolidated Oil Nigeria Producing Limited.

Famfa Oil Nigeria Ltd

Famfa Oil Nigeria Ltd was incorporated in 1991. It was awarded the leasehold rights to OPL 216 in 1993. In 1996, Famfa oil Ltd with a vision of being the leading indigenous oil and gas exploration and production company in Nigeria made huge oil discoveries in an oil bloc covered by OPL 216. The Head office of the oil company is at 290A, Ajose Adeogun Street, Victoria Island Lagos.

South Atlantic Petroleum

South Atlantic Petroleum (SAPETRO) is an indigenous oil exploration and production Company. The company has oil assets in West and East Africa covering about 60,000 square kilometres. In West Africa, the company has an operating interest in bloc 1 concession including Seme oilfield, offshore the Republic of Benin. The Seme Field has a long history of oil production dating back 30 years. In East Africa, SAPETROL has interest in two contiguous deepwater blocs in the Mozambique Channel and in Belo Profond in Madagascar. The Head office of SAPETROL in Nigeria is located at 2nd 11th and 12th floor South Atlantic Petroleum Towers Adeola Odeku, Victoria Island, Lagos. It has offices at Lot H27, Les Cocotiers, Cotonu Benin Republic, 9 Rue du Faubourg Saint Honore, 75008 Paris, France and 26 Avenue General Ramanantsoa, Isoraka Madagascar.

Consolidated Oil Nigeria Producing Limited

Consolidated Oil Nigeria Producing was founded in 1984. The name was later changed in 2002 and registered as Conoil Producing Ltd. The company's registered office is at plot 289 Ajose Adeogun Street Victoria Island, Lagos. As at 2013 Con Oil has field offices at 27 Kala street Port Harcourt and 75 Airport Road, Warri.

Indigenous oil companies being generally small in size are always in short supply of technology and funds. This being the case, they will do well if they operate in clusters of collaboration and cooperation. They can share some critical facilities instead of each trying to acquire every facility.

Chapter 4

International Oil and Gas Organizations

Owing to the critical role of oil and gas in the economic development of nations, international organizations have since evolved to regulate the production and supply of oil and gas, and to offer counsel that will ensure environmental protection and sustainable use of oil and gas. These international oil and gas organizations include the Organization of Oil Exporting Countries (OPEC), Gas Exporting Countries Forum (GECF), the World Petroleum Council (WPC) and the World Energy Council (WEC).

Organization of Petroleum Exporting Countries (OPEC)

Events occur as a result of causes, either brought about by man or propelled by natural forces. So it was with the establishment of OPEC. At the end of World War II, the economies of many nations were in ruins. There was a need for a robust and radical action to save the world from economic collapse. This led to the establishment of the World Bank, International Monetary Fund (IMF) and the Organization of Petroleum Exporting Countries (OPEC).

At the turn of the twentieth century, oil had become a major source of energy in the world. At the turn of that century, oil has become the top ranking commodity in the world. The increasing role of oil in the international economy was such that the world's production of goods and services and the world's infrastructure were and are still dependent on affordable supplies of oil. Oil became the focal means of economic development. In this situation, the struggle to own and control oil was and is still an intense one. Countries endowed with oil struggled and are still struggling not only to control the exploration and production of their natural resource, but also to be able to influence the price of oil in the international oil market. International oil corporations on the other hand struggled and are still struggling to retain their control of the exploration, production and prices of petroleum in the international oil market. It was in this state of affairs that OPEC was formed.¹

Before the formation of OPEC in 1960, it was the IOCs that called the shots in the international oil arena. They were so powerful that they dictated the level of production of petroleum in the host countries, as well as the price at which it was sold.

¹ See G. Etikerense, *Nigerian Petroleum Law*

At this time, most of the host countries were under one form of colonial rule or the other. The result was that they were not in a position to influence events in the oil industries as they were relegated to the role of dormant regulators. To make matters worse, they did not have the financial muscle to challenge the IOCs because income from oil exploration and production only trickled in the form of paltry rents and royalties.

In 1959 the IOCs unilaterally cut production and price of oil in Venezuela and parts of the Middle East. Because of this action of the IOCs, a meeting of oil producing countries was hastily arranged in the Iraqi capital of Baghdad in September 1960. This meeting scorned by the IOCs was attended by representatives from the Governments of Saudi Arabia, Iran, Kuwait, Venezuela and the host country Iraq. Together these countries resolved to form a cartel known as Organization of Petroleum Exporting Countries.²

With the formation of OPEC, the dominance of the world oil industry by the so-called oil majors came under challenge. There can be little argument that the birth of OPEC marked the beginning of a radical departure from the dominant and overbearing position of the major IOCs in the world oil industry.

The aims and objectives of OPEC are:

- i. Co-ordination and unification of the petroleum policies of Member Countries and the determination of the best means for safeguarding their interests, individually and collectively.
- ii. Devising ways and means of ensuring the stabilization of oil prices in international oil markets with a view to eliminating harmful and unnecessary fluctuations.
- iii. Giving due regard at all times to the interests of producing nations and the necessity of securing a steady income to producing countries; efficient economic and regular supply of petroleum to consuming nations and a fair return on capital to those investing in the petroleum industry.
- iv. Negotiating for the participation of member nations in oil exploration and production.
- v. Fixing and allocating production quotas to member nations.
- vi. Ensuring steady supply of oil to consuming nations.
- vii. Examining and ensuring that participation of I.O.Cs in all oil exploitation does not jeopardize the interests of member nations.³

Structure and Organization of OPEC

OPEC operates through three principal organs, namely: the Conference, the Board of Governors and the Secretariat.

² Lawrence Atsegbua, *Oil and Gas Law in Nigeria – Theory and Practice*

³ www.opec.org/objectives

The Conference

This is the supreme authority of the organization. It consists of the Heads of delegation of member nations, who are usually the Ministers in charge of Petroleum Resources. This body meets twice a year to discuss matters affecting their common interests, which mainly center on stabilization of the price of oil and steady income from oil exports. Decisions are taken by unanimous agreement of all member countries. It follows, from its pivotal position that the Conference is charged with the function of formulating the general policies of the Organization as well as determining the best means of implementing them. It is also the Conference that decides on the admission of new members. Other functions of the conference include the confirmation of appointment of the Board of Governors, the appointment of the Secretary-General and other high ranking officers of the organization, amendment of the Statutes, approval of budgets and consideration of statement of accounts and auditor's report.

The Board of Governors

This body is made up of Governors nominated by member countries and confirmed by the Conference. The Board also meets twice a year, to deliberate on matters affecting the Organization. Essentially, this Board has the duty of managing the affairs of the organization, and implementing the decisions of the Conference.

The Secretariat

This body is charged with the duty of carrying out the executive functions of the organization, under the direction of the Board of Governors. The Secretariat is headed by the Secretary-General, often described as the Chief Officer. He is appointed by the unanimous decision of the Conference, and must be a national of one of the member countries, and at the same time meet certain minimum conditions. The Secretary General must:

- (a) be 35 years and above;
- (b) be a graduate of a recognized University in the disciplines of Economics, Law or Science and Engineering or Business Administration.
- (c) have 15 years experience of which at least 10 years should have been spent on employment or positions directly related to the oil industry.

The Secretariat is made up of Divisions and Departments. There is a Division of Research, a Department of Personnel and Administration, a Legal Department, a PR and Information Department, a Debt Services Department, an Energy Studies Department, a Refinery and Products Department, and a Department of Public Information.

OPEC'S Contributions and Achievements

Since its formation in 1960, OPEC has achieved most of its objectives. The antagonism it faces from the rich developed and economically powerful nations is

because contrary to expectations of the latter that the organization will wither away shortly after its formation, the organization on the contrary grew from strength to strength. In 2010 the organization celebrated its 50th year anniversary. It is with hostility that developed nations led by the United States of America, often view the operations of OPEC.

OPEC has contributed massively to the development of petroleum industries in member nations in the following ways:

- i. It has played a key role in the establishment of national oil companies in member nations. In the case of Nigeria, the formation of the first national oil company, then known as Nigerian National Oil Corporation was at the prompting of OPEC.
- ii. OPEC has raised the price of oil. Between 1971 and 1974, this cartel succeeded in raising the price of crude oil from a paltry one dollar 50 cents per barrel to 11 dollars 65 cents per barrel. Since then, member nations have come to reap increased revenues from sale of crude oil, which to some extent has brought them economic growth.
- iii. OPEC has succeeded in ensuring the participation of its member nations in oil exploration and production. The various Joint Venture Agreements entered into between N.N.P.C, as an agent of the Federal Government of Nigeria and IOCs, like Shell, Agip and Elf, attest to the fact of state participation.
- iv. OPEC has greatly assisted its member nations to start negotiations on new royalties, which are more favourable to them.
- v. The organization has to some extent achieved success in regulating and limiting the activities of IOCs operating in member nations.
- vi. On the political front, OPEC and its member nations are formidable forces to reckon with in international politics, which sometimes is greatly influenced by events in the global oil market. Member nations speak with one voice on matters of petroleum policies.
- vii. OPEC has established a common Fund, which has often aided needy nations financially.
- viii. OPEC has greatly facilitated the realization of the resolution on permanent sovereignty over natural resources as far as host countries exporting oil are concerned. This realization has been felt by the shift away from investor ownership of natural resources towards ownership and control by owners of petroleum resources, namely host countries. Without the role of OPEC, it is doubtful if this trend would have been sustained in member nations. OPEC's Resolution 90 of 1968 on petroleum policy went a long way in urging member nations to participate in oil exploration and production
- ix. OPEC Secretariat boasts of various departments which enables it, not only to confront modern challenges in the petroleum industry, but also to find solutions to them.

In the first five years of its existence, OPEC had its headquarters in Geneva, Switzerland. The headquarters were later moved to Vienna, Austria on September 1st, 1965. As at 2013 OPEC had twelve members, (six Middle East, four Africa and two South America). Indonesia suspended its membership in January 2009 when it became a net importer of crude oil, while Ecuador suspended its own membership in December 1992.

To be a member of OPEC, a nation must be a net exporter of petroleum, and must have a national oil company. OPEC's resolution on member states participation in oil exploration and production indicated the organization's fundamental objective from the onset. The resolution reads:

Where provision for government participation in the ownership of the concession-holding company under any of the present petroleum contracts has not been made, the government may acquire a reasonable participation on the grounds of the principle of changing circumstance. If such provisions have actually been made but avoided by the operators concerned, the rate provided for shall serve as minimum basis for the participation to be acquired.

The above OPEC resolution was again reaffirmed in 1971 calling on member states to embark on participation in oil ventures within their territories. It is believed by many that this OPEC resolution, as well as the U.N. 1962 resolution 1803 on Permanent Sovereignty over Natural Resources, to a large extent, influenced the provision of the first schedule to the Nigerian 1969 Petroleum Act on the right of the Nigerian government to participate in the oil concessions of international oil corporations operating in the country. It can be fairly stated from the above provision that the concept or idea of state equity participation in the petroleum industry is based on the broad principle of public or national interest. This interest involves political and economic expediency. That is to say an oil producing state like Nigeria should, as a matter of political, economic development and sustenance, embark on the exploration and production of petroleum resources in partnership with IOCs, who have the wherewithal – capital, skilled manpower and technology.

By 2010, OPEC has been in existence for half a century. Below is a decade by decade performance of the cartel.

The 1960s

OPEC's formation by five oil-producing developing countries in Baghdad in September 1960 occurred at a time of transition in the international economic and political landscape, with extensive decolonisation and the birth of many new independent states in the developing world. The international oil market was

dominated by the *Seven Sisters* multinational oil corporations.⁴ OPEC developed its collective vision, set up its objectives and established its Secretariat, first in Geneva and then, in 1965, in Vienna. It adopted a *Declaratory Statement of Petroleum Policy in Member Countries* in 1968, which emphasized the inalienable right of all countries to exercise permanent sovereignty over their natural resources in the interest of their national development.

The 1970s

OPEC rose to international prominence during this decade, as its Member Countries took control of their domestic petroleum industries and acquired a major say in the pricing of crude oil in world markets. On two occasions, oil prices rose steeply in a volatile market, triggered by the Arab oil embargo in 1973 and the outbreak of the Iranian Revolution in 1979. OPEC broadened its mandate with the first Summit of Heads of State and Government in Algiers in 1975, which addressed the plight of the poorer nations and called for a new era of cooperation in international relations, in the interests of world economic development and stability. This led to the establishment of the OPEC Fund for International Development (OFID) in 1976.

The OPEC Fund for International Development (OFID) is a multilateral development finance institution established in 1976 by OPEC member states. OFID was conceived at the Conference of the Sovereigns and Heads of State of OPEC Member Countries held in Algiers, Algeria, in March 1975.

OFID's objective is to reinforce financial cooperation between OPEC Member Countries and other developing countries, by providing financial support to the latter for their socio-economic development. The institution's central mission is to foster South-South Partnership with fellow developing countries with the aim of eradicating poverty. OFID's headquarters are located in Vienna, Austria.

The OPEC Special Fund started its operations in 1976, with initial resources of about \$800 million. By the end of 1977 it had extended 71 loans to 58 developing countries, and had channelled donations from member countries to other development institutions, including the International Monetary Fund (IMF) and the International Fund for Agricultural Development (IFAD).

OFID's resources consist of voluntary contributions made by OPEC member countries and the accumulated reserves derived from the organizations various operations. All developing countries, with the exception of OPEC Member Countries themselves, are in principle eligible for OFID assistance. The least developed countries, however, are accorded higher priority and have consequently attracted the lion's share of OFID's resources. Over the years, OFID has spread its presence to 134 countries, of which 53 are in Africa, 43 in Asia, 31 in Latin America and the Caribbean, and 7 in Europe. OFID's total approved Aid commitments as at the end of

⁴ Seven sisters was a term coined in the 1960s by Enrico Mattei then head of the Italian state oil company to describe the seven oil companies that dominated the global petroleum industry.

December 2013, stood at US\$16,653m.⁵ some of the projects OFID offers loans for their development include: agriculture, education, energy, health, industry, telecommunications, transportation, water Supply and Sanitation.

By the end of December 2013, US\$2,041m had been committed for 197 operations in support of private enterprise in Africa, Asia, Latin America and Europe. By the end of December 2013, over 1,500 grants, amounting to over US\$573m had been extended.⁶

In the 1970s OPEC member nations embarked on ambitious socio-economic development schemes. In the 1970s, OPEC membership grew to 13.

The 1980s

After reaching record levels early in the decade, oil prices began to weaken, before crashing in 1986, responding to a big oil glut and consumer shift away from oil as a source of energy. OPEC's share of the smaller oil market fell heavily and its total petroleum revenues dropped below a third of earlier peaks, causing severe economic hardship for many member countries. Prices began to rise in the dying years of the 1980s This was due to OPEC's introduction of production quota among member countries as well as dialogue and cooperation with non-OPEC members. These two measures by OPEC proved effective in ensuring market stability and reasonable prices. Environmental issues emerged on the international energy agenda during this decade.

The 1990s

In the 1990s, prices moved less dramatically than in the 1970s and 1980s. OPEC's action reduced the market impact of Middle East hostilities particularly the 1991 Gulf War. But excessive volatility and general price weakness dominated most of the decade. The South-East Asian economic downturn and mild Northern Hemisphere winter of 1998–99 saw prices back at 1986 levels. However, a solid recovery followed in a more integrated oil market, which was adjusting to the post-cold war era of greater regionalism, globalization, communications revolution and other high-tech trends. As the United Nations-sponsored climate change negotiations gathered momentum after the Earth Summit in Rio de Janeiro in 1992, OPEC sought fairness, balance and realism in the treatment of oil supply.

The 2000s

An innovative OPEC oil price band mechanism helped strengthen and stabilise crude prices in the early years of the decade. But a combination of market forces, speculation and other factors transformed the situation in 2004, pushing up prices and increasing volatility in a well-supplied crude market. Prices soared to record levels in mid-2008, before collapsing in the emerging global financial turmoil and economic recession.

⁵ www.opec.com

⁶ Ibid

OPEC became prominent in supporting the oil sector as part of global efforts to address the economic crisis. OPEC's second and third summits in Caracas and Riyadh in 2000 and 2007 respectively established stable energy markets, sustainable development and the environment as three guiding themes. In 2005, it also adopted a comprehensive long-term strategy of ensuring stability of oil prices.

In May 2008, Indonesia announced it would leave OPEC when its membership expired at the end of that year, having become a net importer of oil and being unable to meet its production quota. A statement released by OPEC on 10th September 2008 confirmed Indonesia's withdrawal, noting that it "regretfully accepted the wish of Indonesia to suspend its full Membership in the Organization and hopes the Country would be in a position to rejoin the Organization in the not too distant future."⁷

OPEC Members, Their Quotas and Oil Production Capacities

Country	Quota (7/1/05)	Production (1/07)	Capacity
Saudi Arabia	10,099	9,800	12,500
Algeria	894	1,360	1,430
Angola	1,900	1,700	1,700
Ecuador	520	500	500
Iran	4,110	3,700	3,750
Iraq		1,481	
Kuwait	2,247	2,500	2,600
Libya	1,500	1,650	1,700
Nigeria	2,306	2,250	2,250
Qatar	726	810	850
United Arab Emirates	2,444	2,500	2,600
Venezuela	3,225	2,340	2,450
Total	29,971	29,591	32,330

The above quotas are 2005 quotas.

Present and Future OPEC - Challenges and Prospects

New and emerging producers and exporters of oil. There are emerging new producers of crude oil. Most of these oil-producing countries also export the commodity. Most of these new producers are not members of OPEC. Russia is a leading oil producing and exporting country. It is not an OPEC nation. The European Union countries rely on Russia for about 40% of their energy needs sourced from oil and gas. Other oil

⁷ Indonesia is still exporting light, sweet crude oil and importing heavier, more sour crude oil to take advantage of price differentials.

producing and exporting countries include Sudan and Chad in Africa, Brazil and Ecuador in South America. The United Kingdom, which produces oil from its North Sea territory is also an oil exporter. All these countries operate outside OPEC. Their presence has increased the volume of oil in the global market and trigger greater competition. The result is that though OPEC is still influential in the global oil and gas industry because of the combined huge oil resources of its member countries, it can no longer be said to be in a position of dominance as it did 30 or 40 years ago. The message is that OPEC, though still a powerhouse in the oil and gas industry, is no longer in control of the price of oil in the global oil market as it was previously. It is however, important to note that OPEC is still relevant for member countries. That new and emerging oil producing and exporting countries have decided to operate outside OPEC does not mean the organization has outlived its usefulness. The fact is that there are countries, which because of their historical and political antecedents, they will not be admitted into OPEC despite their huge oil reserves. OPEC membership is drawn from nations with a history of colonial and imperialist subjugation. It is such nations that rallied together to find a way of redressing the unequal relationship between them and the international oil companies of the rich and developed countries. So a nation without this past cannot be admitted into OPEC, its huge oil reserves notwithstanding.

Indications are that OPEC is still relevant, and a factor to reckon with in the global oil and gas industry. In a 2012 Ministerial level meeting in Vienna, Austria, OPEC held an energy dialogue with the European Union. This is a practice both parties initiated in 2005. It is aimed at exchanging ideas, information and data on the state of the global oil industry, in order to maintain stability in oil market. The practice also aims at creating greater awareness of the interdependence of all stakeholders in the energy sector.

Those who have argued that OPEC is now a spent force living on its past glory of the 1970s may have to look at recent world events before continuing with their argument. Despite the entry of other non OPEC producers and exporters into the international oil market, OPEC still controls a sizeable portion of the global oil export market. This is a verifiable fact.

Judicial and legislative challenges in the United States of America

The United States of America is the world's leading nation in free enterprise. As such, it views with hostility organizations it considers cartels engaged in anticompetitive practices. This is the way it views OPEC. It is, therefore not surprising to find law suits in various courts of the United States challenging OPEC's right to formulate and implement specific policies aimed at achieving its set objectives. At the same time, there have been Bills in the United States Congress targeting OPEC as the major factor for the high oil prices in that country. These are part of the emerging challenges OPEC is facing in the global oil market. Some of the court cases in the U.S against OPEC include: *International Association of Machinists and Aerospace Workers v. OPEC* and

others;⁸ *Prewitt Enterprises Inc. v. OPEC*;⁹ *Refined Petroleum Products Anti-trust Litigation*;¹⁰ and *Freedom of Watch v. OPEC*.¹¹ All these court actions were aimed at getting OPEC and its Member Countries to abandon their policies, which, in the view of the claimants are responsible for the high price of petroleum products in the United States. OPEC has defended itself in all these cases relying on several defences including Sovereign Immunity, Political Question Doctrine¹² and Act of State Doctrine.¹³ If any of these suits becomes successful, it will make it illegal for OPEC without the will and capacity to ignore the decisions, to implement its oil policies for the benefit of its members.

Legislative challenges

As at 2013, there were two Bills in the U.S which since 2000 have been before the U.S Congress, but were yet to be enacted into law. Specifically these were the No Oil Producing and Exporting Cartels (NOPEC) Bill, and OPEC Accountability (OPA) Bill. The aim of NOPEC was to eliminate the powers of OPEC member countries to act collectively in setting production quotas and distribution or price levels for crude oil and petroleum products. OPA on the other hand sought to declare OPEC an oil cartel engaged in anti-competitive practices of manipulation of prices of crude oil and maintenance of high artificial prices, and to provide for sanctions. These were far-reaching legislative proposals. If they had become law, depending on OPEC's will and capacity, were capable of rendering OPEC redundant and irrelevant or strengthening it. Indications were that the U.S Congress was reluctant to pursue the passage of the two Bills because of their possible repercussions on trade and economic relations with OPEC member countries and sympathizer nations.

World Petroleum Council (WPC)

The World Petroleum Council was founded in 1933 and is headquartered in London. It has 65 members countries. The world petroleum council aims at holding congresses, conferences, seminars and workshops to:

⁸ A 1979 case

⁹ A 2001 case

¹⁰ A 2008 case

¹¹ Another 2008 case.

¹² In America Constitutional Law, the *Political Question Doctrine* is closely linked to the concept of justiciability. It comes down to a question of whether or not the court system is an appropriate forum in which to hear the case. This is because the court system only has authority to hear and decide a legal question, not a political question. While legal questions are justiciable, political questions are not.

¹³ The *Act of State Doctrine* provides that every sovereign state is bound to respect the independence of every other sovereign state, and its court's will not sit in judgment over acts of another government done in its own territory. The doctrine is not required in international being largely irrelevant because of the doctrine of state sovereignty which prevents it from arising in the first place. It is a principle evolved in the U.S whose courts against international law had entertained cases by the provisions of international are clearly outside the competence.

- i. Promote best practices with regard to social responsibility and development;
- ii. Promote the advancement of human rights in oil matters;
- iii. Provide a forum for representatives of communities to share their concerns regarding sustainability;
- iv. Suggest solutions for energy challenges, environmental protection and multi sectorial cooperation with the aim of conserving and preserving the environment; and
- v. Share knowledge of technological development and scientific research.

Gas Exporting Countries Forum (GECF)

Gas Exporting Countries Forum was established in Tehran in 2001. Until the seventh Ministerial Meeting in Moscow, Russia, it operated without a charter and fixed membership structure. However, the seventh Ministerial meeting held on 23rd December, 2008 adopted the organization's charter. At the same meeting, it was decided to set up an executive office and a Secretariat in Doha, Qatar. On the eighth Ministerial meeting in June 2009, the energy minister of Qatar Abdullah bin Hamad Attiyah was elected president, and the Algerian energy minister Chakib Khelil was elected Vice President. On the ninth Ministerial Meeting in December, 2009, the Vice President of Russian energy engineering and construction company Leonid Bokhanovsky was elected Secretary General.

The objectives of GECF are to:

- i. Foster the concept of mutuality of interests by favouring dialogue between producers, between producers and consumers and between government and energy related industries;
- ii. Provide a platform to promote study and exchange of views;
- iii. Promote a stable and transparent energy market.

The highest body of the GECF is the Ministerial Meeting. In between ministerial meetings, the work of the forum is organized by the Secretariat. Since 2001, the Forum has had Ministerial Meetings at least once each year in the various capital cities of member states. The Doha 2011 meeting dealt principally with two issues namely: natural gas prices and a common approach to the natural gas market. It was agreed at the meeting that the price of gas to generate electricity was too low and the gap between gas and crude oil prices need to be narrowed. The linking of gas prices to oil prices was essential to help the forum arrive at better prices for gas. However, the Forum could not set out supply limits for its members. The summit issued the Doha Declaration, which stated that GECF members recognized the importance of long-termed gas contracts to achieve a balanced risk sharing mechanism between producers and consumers and acknowledged the need to reach a fair price for gas based on gas-oil products prices indexation with the objective of an oil/gas price convergence.

GECF is a 13-member forum with four observers. As at 2013, the forum's members were Algeria, Bolivia, Egypt, Equatorial Guinea, Iran, Libya, Nigeria, Qatar,

Russia, Trinidad and Tobago and Venezuela. GECF member nations like Iran and Russia aim at making GECF a gas cartel that will be as formidable or even more formidable in determining gas prices like OPEC determines oil prices. To achieve this, the forum must like OPEC establish and enforce production quota for its members.

The World Energy Councils

The World Energy Council (WEC) like the World Petroleum Council also has its Headquarters in London. WEC aims at complementing the World Petroleum Council. It also aims at sustainable supply of energy for the greatest benefit of all people.

The World Energy Council is the largest global network of energy leaders and practitioners dedicated to delivering a sustainable energy system for the greatest benefit of all. Originally intended as an organization to manage a gathering of energy experts, WEC has evolved into one of the World's most influential energy organizations. Also WEC continues to deliver on its original goal by organizing the world's largest all-energy event: the world energy congress.

Shadowy Oil Cartels

Outside the open and well-known oil organizations such as OPEC and WPC are shadowy, and perhaps clandestine oil cartels that carry out oil operations in various parts of the world and to some extent influence pricing in oil markets. These organizations include the so-called old seven sisters and the new seven sisters.

The Old Seven Sisters

The *Seven Sisters* was a term coined in the 1950s by businessman Enrico Mattei, then-head of the Italian state oil company. Enrico Mattei used the term to describe the seven oil companies that dominated the global petroleum industry from the mid-1940s to the 1970s.¹⁴ The group comprised the Anglo-Persian Oil Company (*later renamed BP*); Gulf Oil, Standard Oil of California (SoCal) and Texaco (*later renamed Chevron*); Royal Dutch Shell; Standard Oil of New Jersey (Esso) and Standard Oil Company of New York (*later renamed ExxonMobil*).¹⁵

These oil companies formed a consortium that was a sort of cartel that determined the operation of the oil industry worldwide. Enrico Mattei as head of the Italian state oil company sought membership of the consortium for the Italian oil company Eni, but was rejected by what he dubbed *the Seven Sisters*.¹⁶ British writer Anthony Sampson took over the term when he wrote the book *The Seven Sisters* in 1975, to describe the shadowy oil cartel, which tried to eliminate competitors and control the world's oil resource.¹⁷

¹⁴ www.thesevensisters.com

¹⁵ Ibid

¹⁶ Ibid

¹⁷ Ibid

Well-organized and able to negotiate as a cartel, the *Seven Sisters* were initially able to exert considerable power over Third World oil producers. Prior to the oil crisis of 1973, members of the *Seven Sisters* controlled around 85 percent of the world's petroleum reserves. However, in recent decades the dominance of the companies that constituted the original *Seven Sisters* declined as a result of the increasing influence of the OPEC cartel and state-owned oil companies in emerging-market economies.¹⁸ In recent decades the dominance of the *Seven Sisters* and their successor companies has been challenged by the following trends:

- i. The increasing influence of the OPEC cartel,
- ii. A declining share of world oil & gas reserves held by OECD countries and
- iii. The emergence of powerful state-owned oil companies in emerging-market economies.

As at 2010, the surviving companies of the Seven Sisters were BP, Chevron, ExxonMobil and Royal Dutch Shell, which formed four members of the *supermajors* group.

The New Seven Sisters

The *Financial Times* has used the label the *New Seven Sisters* to describe a group of what it described as the most influential national oil and gas companies based in countries outside of the OECD.¹⁹ According to the Magazine, this group comprises:

- i. China National Petroleum Corporation (China)
- ii. Gazprom (Russia)
- iii. National Iranian Oil Company (Iran)
- iv. Petrobras (Brazil)
- v. PDVSA (Venezuela)
- vi. Petronas (Malaysia)
- vii. Saudi Aramco (Saudi Arabia)

No doubt the formation of OPEC helped the eclipse of the old *seven sisters* and the emergence of the new seven sisters considering the composition of OPEC and that of the new seven sisters. With the formation of OPEC, serious national oil companies with a vision and mission of excellence used the price stability leverage the organization created for them to attain positions of dominance in world oil affairs.

¹⁸ Ibid

¹⁹ Abdelrahmanussa.com/humanity/the-seven-sisters-of-oil

PART B

Upstream Oil and Gas Issues, Law and Policy

Discovery, Uses and Importance of Oil and Gas in Nigeria

Introduction

Interest in Nigerian oil originated in 1914¹ with an ordinance making any oil and mineral under Nigerian soil legal property of the Crown. By 1938 the colonial government had granted the state-sponsored company, Shell (then known as Shell D'Arcy) monopoly over exploration of all minerals and petroleum throughout the entire colony.² After nearly 50 years searching for oil in the country, Shell-BP in 1956 discovered commercially viable oil at Oloibiri now in Bayelsa state roughly 90 km west of Port Harcourt.

As at 2013, Nigeria's proven oil reserves were estimated by the United States Energy Information Administration (EIA) at between 16 and 22 billion barrels.³ However, other sources claimed there could be as much as 35.3 billion barrels.⁴ This estimated reserves made Nigeria the tenth petroleum-rich nation in the world and Africa's petroleum-richest nation. In mid-2001, Nigeria's crude oil production averaged 2.2 million barrels per day.

As at 2012, Nigeria had a total of 159 oil fields and 1,481 wells in operation according to the Ministry of Petroleum Resources.⁵ The most productive region of the nation is the coastal Niger Delta Basin in the Niger Delta region, which encompasses 78 of the 159 oil fields. Most of Nigeria's oil fields are small and scattered, and as at 1990, these small unproductive fields accounted for 62.1% of Nigerian crude oil production. This contrasts with the sixteen largest fields which produced 37.9% of Nigeria's petroleum at that time.⁶ As a result of the numerous small fields, an extensive and well-developed pipeline network has been engineered to transport the crude oil from its production point to either the refineries or other demand points. Also due to lack of highly productive fields, the federal government through NNPC has to invest huge money for continuous petroleum exploration and production.

¹ Incidentally, this was the year the northern and southern protectorates of Nigeria were amalgamated to form one Nigeria.

² www.nnpcgroup.com/businessinformation/history_of_oil_and_gas_in_nigeria, visited 10/7/2013

³ Ibid

⁴ Ibid

⁵ allafrica.com/nigeria_oilwells

⁶ Ocbit 153

Nigeria's petroleum is classified mostly as *light* or *sweet*. *Light* or *sweet* petroleum is largely free of sulphur. Nigeria is the largest producer of sweet oil in OPEC. Nigeria's sweet oil is similar in composition to petroleum extracted from the North Sea. *Bonny light* is perhaps Nigeria's most popular sweet oil. Names of other Nigerian crudes named according to export terminal, are Qua Ibo, Escravos blend, Brass river, Forcados, and Pennington Anfan. The U.S. as at 2013 was the largest importer of Nigeria's crude oil, accounting for 40% of the country's total oil exports. Nigeria then provided about 10% of overall U.S. oil imports and ranked as the fifth-largest source for oil imports in the U.S.⁷

As 2012, there were six petroleum export terminals in the country. Shell owns two of these terminals; Mobil, Chevron, Texaco, and Agip own one each. Shell also owns the Forcados Terminal, which in conjunction with the nearby Bonny Terminal is capable of storing 13 million barrels of crude oil. Mobil operates primarily the Qua Iboe Terminal in Akwa Ibom State, while Chevron owns the Escravos Terminal located in Delta State. This terminal has a storage capacity of 3.6 million barrels. Agip operates the Brass Terminal in Brass, a town 113 km southwest of Port Harcourt. This terminal has a storage capacity of 3,558,000 barrels. Texaco operates the Pennington Terminal.

Nigeria is one of the few major oil-producing nations still capable of increasing its oil output. The reason for Nigeria's relative unproductivity is primarily OPEC's regulations on production to regulate prices in the international oil market. Also frequently, oil production in Nigeria is disrupted by protests of Niger Delta inhabitants who feel cheated and exploited by international oil companies and the Nigerian government.

Despite the prominence of oil in Nigeria's national economic life, the Nigerian federal government up to 1968 had only a limited involvement in the oil industry. The Nigerian government for a long time confined its financial involvement in the oil industry to taxing and collecting royalties from oil companies. The oil companies set their own prices on petroleum products and dominated the industry to the extent that they influenced laws governing the oil sector to their advantage to the disadvantage of the Nigerian state. However, the civil war changed the relationship between the federal government and the petroleum industry. Gowon's military government enacted the 1969 Petroleum Decree which dismantled the existing revenue allocation system under which revenue from oil taxes was divided equally between federal and state government. Under the new revenue allocation formula, the federal government controlled the allocation of revenues to the states.

In May 1971 the Nigerian federal government nationalized the oil industry by creating the Nigerian National Oil Corporation via a decree. Nationalization of the oil sector was precipitated by Nigeria's desire to join OPEC, which required member

⁷ [www.businessmonitor. Com/oilandgas](http://www.businessmonitor.Com/oilandgas)

states to acquire 51% stake in their oil sector and should become increasingly involved in the sector. Although the Nigerian government had been involved in the industry prior to 1971, this was accomplished mainly through business deals on concessions to foreign oil companies operating in the country. The creation of NNOC in 1971 made government participation in the industry more prominent. From 1971 when NNOC was formed, the federal government continued to increase its participation in the oil industry throughout the next several decades.

Increased government participation in the oil industry led to corruption. During the period of Murtala Mohammed and Olusegun Obasanjo who ruled amidst the oil boom of the 1970s Nigerian petroleum industry became characterized by endemic patronage and corruption by the political elites, a scourge that plagues the nation to this day. At both state and federal government levels, government officials use oil money and sometimes oil theft to patronize their cronies and supporters. This has fuelled ethnic unrest and violence throughout Nigeria, but more in the Niger Delta states, where the stakes for control of immense oil resources are very high.

Following the formation of NNOC, the Nigerian government continued to assert control over oil revenues. In 1972, the Nigerian government declared that oilfields not owned by international oil corporations were legally property of the government, which had jurisdiction to sell and allocate them as concessions to foreign investors.

From the formation of NNOC in 1971, the Nigerian oil industry witnessed a number of positive developments. In:

- i. 1974: Participation in oil industry by government increased to 55%.
- ii. 1975: Decree 6 increased federal government share in oil sector to 80%, with only 20% going to states.
- iii. 1976: First exploration and development venture by NNOC undertaken and drills to uncover commercial quantities of petroleum off-shore commenced.
- iv. 1978: The federal government passed the Land Use Act which vested control of state lands in the Governor of the State. This provision of the Land Use Act led to Section 40(3) and section 44 (3) of the 1979 and 1999 constitution respectively, which declared all minerals, oil, natural gas, and natural resources found within the bounds of Nigeria to be the legal property of the Nigerian federal government.
- v. 1979: In an effort to establish further control over the oil industry, the government merged and restructured the NNOC and the Ministry of Petroleum to form the Nigerian National Petroleum Corporation (NNPC), an entity which would exert more power over the allocation and sale of concessions than the NNOC. By 1979, the NNPC had also gained 60% participation right in the oil industry.

By 1979, the oil industry was accounting for 82% of all federal government revenues. In the early 1980s, petroleum accounted for 96% of all governmental external revenue, but a mere 27% of the nation's GDP. In the 1980s, faint clamours

for a stake in the oil resources of the Niger Delta region by people of the Niger Delta began to make themselves felt.⁸

A 1982 Revenue Allocation Act modified in 1984 by Decree No. 36 reduced federal government share of oil revenues from 80% to 55%. This Decree increased states' revenue allocation from oil earnings to 32.5%. The remaining 1.5% was earmarked as a special fund to develop oil producing areas.⁹

A 2003 estimate showed recoverable crude oil reserves in Nigeria at 34 billion barrels.¹⁰ This reserve base was expected to increase due to additional exploration and appraisal drilling. As of the same 2003, over 900 million barrels of additional crude oil of recoverable reserves had already been identified. The government in 2003 set a target of achieving a reserve of 40 billion barrels by 2010. This target was however not realized.

Nigeria has an estimated 159 trillion cubic feet of proven natural gas reserves making the country one of the top ten natural gas endowments in the world. Due to lack of utilization infrastructure, Nigeria as at 2012 still flared about 40% of the natural gas it produces and re-injected 12% to enhance oil recovery. Official Nigerian policy was to end gas flaring completely by 2008. However, this did not happen. In 2011, the World Bank estimated that Nigeria accounted for 12.5% of the world's total gas flaring. Shell estimate showed that about half of the gas flared annually in Nigeria is associated gas.

The Nigerian oil industry strategy of curtailing gas flaring is to collect the associated gas and process it into Liquefied Natural Gas (LNG) thereby enhancing Nigerian natural gas revenues while simultaneously reducing carbon dioxide emissions in the country. Of the 606 oil fields in the Niger Delta area in 2012, 355 were onshore while the remaining 251 were offshore. Of both onshore and offshore oil wells, 193 were in 2013 operational while 23 were shut-in or abandoned as a result of poor prospectivity or total drying up of the wells. Outside the Niger Delta, a total of 28 exploratory oil wells as at 2013 had been drilled all showing various levels of prospectivity. These wells included two discovery wells in Anambra State, one discovery well each in Edo State and Benue State, and Twenty-four discovery wells in the Chad Basin. However as at the end of 2013, production was yet to commence from any of these wells.¹¹

Angola and Nigeria are the largest oil producers in Africa. In Nigeria, the deepwater sector still has large prospects of expansion and development. The amount of oil extracted from Nigerian deep water was expected to expand from 15,000 bbl/pd in 2003 to 1.27 Mbbl/pd in 2010. This target was however not met. Deepwater drilling

⁸ www.reference.com/motif/history-of-revenue-allocation-in-nigeria

⁹ www.rmfac.gov.ng

¹⁰ Ibid

¹¹ Obi, Cyril and Siri, *Oil and Insurgency in the Niger Delta: Managing the Complex Politics of Petro-Violence* (Z books, 2011)

for oil in Nigeria is particularly more attractive to oil companies because the Nigerian government has very little share in these activities and it is more difficult for the government to regulate the offshore activities of the oil companies. Also, the deepwater extraction plants are less disturbed by militant attacks, seizures due to civil conflicts, and sabotage.¹²

Uses of Oil

Crude oil is a complex mixture of hydrocarbon molecules made up of long chains or rings of carbon and hydrogen. It is primarily used as a raw material to be processed by refineries into gasoline, diesel fuel, and airplane fuel. Quite a few products are made from crude oil.

In ancient times, American Indians used oil as medicine, and for thousands of years it was used to coat the bottoms of boats and to coat skins to make them waterproof. One of the by-products of refined petroleum is used as a major source of fuel for cement kilns that produce cement that eventually becomes concrete. In modern times, crude oil is used to make:

- i. Asphalt on roads and parking lots;
- ii. Roofing shingles and roof coatings;
- iii. Pipes for houses and city water and sewer systems;
- iv. Ink on newspapers and magazines;
- v. Clothing from synthetic fabrics;
- vi. Parachutes;
- vii. Crayons;
- viii. Computer cases;
- ix. Computer circuit boards;
- x. Carpeting;
- xi. Floor covering;
- xii. Floor wax;
- xiii. Paint;
- xiv. Deodorant;
- xv. Shampoo;
- xvi. Styrene which becomes styrofoam;
- xvii. Hardhats and motorcycle helmets;
- xviii. Cassette tapes, video tapes;
- xix. Shower enclosures;
- xx. Electrical insulation in buildings and computers;
- xxi. Toothpastes;
- xxii. Dishwashing soap
- xxiii. Household detergents such as Tide;

¹² www.shelloil.com_offshoreexploration

- xxiv. Lipsticks;
- xxv. Tires;
- xxvi. Ropes;
- xxvii. Fertilizer used to grow corn and other crops;
- xxviii. Household ammonia;
- xxix. Camera film;
- xxx. Candles;
- xxxi. Adhesive in plywood;
- xxxii. House paint;
- xxxiii. Car battery cases, computer battery cases;
- xxxiv. Refrigerants used in household refrigerators
- xxxv. Cold cream;
- xxxvi. Glycerin;
- xxxvii. Artificial turf;
- xxxviii. Boats;
- xxxix. Vitamin capsules;
- xl. Aspirin;
- xli. Pharmaceuticals;
- xl.ii. Fishing lures;
- xl.iii. Soft contact lenses
- xliv. Shaving cream;
- xl. v. Antifreeze used in auto cooling systems;
- xl. vi. Antihistamines;
- xl. vii. Petroleum jelly;
- xl. viii. Insecticides, herbicides, fungicides;
- xl. ix. Solvents;
- l. Fan belts on engines;
- li. Hand lotion;
- lii. Trash bags and grocery bags;
- liii. Caulking;
- liv. Golf balls;
- lv. Credit cards;
- lvi. Furniture;
- lvii. Furniture and cabinet coverings such as Formica;
- lviii. Footballs, basketballs, soccer balls;
- lix. Bandages;
- lx. Tubing used in medical hospitals for blood, fluids;
- lxi. Insect repellent and mosquito netting;
- lxii. Computer keyboards;
- lxiii. Computer mouse;

lxiv. Adhesive and packing tape.¹³

Importance of Oil

The importance of oil arises from its multiple or almost endless uses. When oil was discovered in Nigeria, initially a 50–50 profit sharing formula was implemented between the oil company that discovered the oil and the Nigerian federal government. Later, the profit-sharing formula was slanted in favour of the government against the oil company.

Today, the petroleum industry in Nigeria is the main generator of GDP in Nigeria. As at 2000, oil and gas exports accounted for more than 98% of export earnings and about 83% of federal government revenue, as well as generating more than 14% of its GDP. It also provides 95% of foreign exchange earnings, and about 65% of government budgetary revenues. In 2006, Nigeria received 99.6% of its export income from oil making the country the world's most oil dependent nation.

Because of the over dependence of Nigeria on oil, in February 2013, the Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA) claimed that the oil sector of the country is killing the nation's economy. NACCIMA's Director General Dr John Isemade said the oil sector is affecting businesses in the country negatively by failing to add real value to them. He said the oil sector has caused substantial decline in agricultural exports, which began in the mid-1960s and continued to date.¹⁴

Nigeria is Africa's largest oil producer. The nation's economy is heavily dependent on the oil sector, which as at 2013 on the average accounted for over 95 percent of export earnings and about 40 percent of government revenues, according to the International Monetary Fund.¹⁵ According to the International Energy Agency, Nigeria as at 2013 produced about 2.53 million barrels per day, well below its oil production capacity of over 3 million barrels per day, in 2011. Nigeria is an important oil supplier to the United States. For the last nine years, the United States has imported between 9-11 percent of its crude oil from Nigeria.¹⁶ However, in the first half of 2012, United States import data for Nigerian crude oil showed U.S import from Nigeria in 2011 has gone down by 5 percent. Although from 2010, total crude oil imports into the United States were generally falling, imports from Nigeria declined at a steeper rate, according to the International Energy Agency.¹⁷ Two main reasons accounted for the fall in U.S import of Nigerian crude oil during this period. First, the discovery of shale oil in the U.S and

¹³ answersyahoo.com. Visited 28/10/2013

¹⁴ S.P Simon, *The Impact of Oil and Gas Production on the Nigerian Economy* International Business and Economic Research Journal February 2006 vol.5

¹⁵ Ibid

¹⁶ Nigeria between 2008 and 2011 was the 4th largest exporter of crude oil to the U.S . According to the CIA World Factbook, Nigeria's main export partners in 2013 were the United States, India, Brazil, Spain, France and the Netherlands.

¹⁷ www.usoilimport.com, visited 23/8/2013

secondly the lying idle of certain U.S east coast refineries which usually refined Nigerian crude oil.¹⁸

Discovery of Gas

The discovery of gas in Nigeria is as old as that of oil. However, not much attention has been directed at this source of energy. As at 2001, Nigeria's gas reserves were estimated at 187 trillion cubic feet. However, most of the gas reserves the nation is reputed to have were found not by exploration for gas but while exploring for oil. Earth scientists believe that there are more gas reserves not found in Nigeria, which when discovered may double the current figures. If concerted efforts were made to discover gas in Nigeria as they were made to discover oil, Nigeria's gas reserves may well be about 400 trillion cubic feet. In 2013 Nigeria was ranked 7th in proven gas reserves in the world.¹⁹

Associated and non-associated gas are evenly distributed in Nigeria and are greatly characterized as some of the best quality in the world. Currently, most of the gas produced in Nigeria is associated gas while the non-associated gas are capped after discovery. Because of the abundance of gas in Nigeria, the nation is seen more as a gas nation than a petroleum country.

Uses of Gas

Natural gas is widely seen as a cooking fuel. But it has several other uses. It is used to:

- i. generate electricity;
- ii. heat buildings;
- iii. fuel vehicles;
- iv. heat water;
- v. bake food;
- vi. power industrial furnaces;
- vii. run air conditioners;
- viii. produce ammonia fertilizer.
- ix. transport things. Compressed natural gas is a cleaner alternative to other automobile fuels such as petrol and diesel. As at 2008, there were 9.6 million natural gas vehicles worldwide. Pakistan had 2.0 million, Argentina 1.7 million, Brazil 1.6 million, Iran 1.0 million, and India 650,000.
- x. Provide Aviation. Russian aircraft manufacturer Tupolev in 2013 runs a development programme to produce LNG and hydrogen-powered aircraft. It was claimed that at 2013 market prices, an LNG-powered aircraft would cost 5,000 roubles less to operate per ton thereby leading to a considerable reduction in carbon monoxide, hydrocarbon and nitrogen oxide emissions.

¹⁸ Ibid

¹⁹ www.list-of-countries-with-oil-reserves.com, visited 17/7/2013

Importance of Gas

The importance of gas arises from its several and critical uses enumerated earlier in this text. For Nigeria with enormous natural gas, the importance of gas to the Nigerian economy is second only to oil. From the nation's prodigious gas resources, gas is second to oil only in the short term. In the long term, when the nation's gas resources are fully developed, gas would most certainly overtake oil as a source of revenue. Again with the Gas-liquid projects embarked on by the Nigerian government, gas promises to challenge oil in its traditional and most prominent sphere of importance – automobile fuelling.

In 2010, Qatar became the richest nation on earth because of its enormous gas resources. What this means is that any nation with vast gas resources is a potentially rich nation. All it needs to realize its potential is to develop and harness its gas resources as Qatar has done.

Major Events in the history of the Nigerian Oil and Gas Industry

1908

Nigerian Bitumen Co. & British Colonial Petroleum commenced operations around Okitipupa.

1938

Shell D'Arcy granted Exploration license to prospect for oil throughout Nigeria.

1955

Mobil Oil Corporation started operations in Nigeria.

1956

First successful well drilled at Oloibiri by Shell D'Arcy

1956

Shell D'Arcy changed its name to Shell-BP Petroleum Development Company of Nigeria Limited.

1958

First shipment of oil from Nigeria.

February 17 1961

Shell's Bonny Terminal was commissioned.

Shell's official opening of Port Harcourt office

Texaco Overseas started operations in Nigeria.

1962

Elf started operations in Nigeria. (As Safrap)

Nigeria Agip Oil Company started operations in Nigeria

1963

Elf discovered Obagi field and Ubata gas field

Gulf oil's first production

1965

Agip found its first oil at Ebocha

Phillips Oil Company started operations in Bendel State

Nigeria's First Refinery in Port Harcourt with 60,000 bpd refining capacity commissioned by Shell-BP.

1966

Elf started production in Rivers State with 12,000 b/pd

1967

Phillips drilled its first well (Dry) at Osari –I

Phillips first oil discovery at Gilli-Gilli –I

1968

Mobil Producing Nigeria Limited) was formed.

Gulf's Terminal at Escravos was commissioned.

1970

Mobil started production from 4 wells at Idoho Field

Agip started production; Department of Petroleum Resources Inspectorate started.

1971

Shell's Forcados Terminal Commissioned

Mobil's terminal at Qua Iboe commissioned.

1973

First Participation Agreement. The Federal Government acquires 35% shares in the Oil Companies.

Ashland started PSC with then NNOC now NNPC

Pan Ocean Corporation drilled its first discovery well at Ogharefe –I

1974

Second Participation Agreement, Federal Government increases equity to 55%;

Elf formally changed its name from "Safrap;"

Ashland's first oil discovery at Ossu –I.

1975

First Oil lifting from Brass Terminal by Agip;

DPR upgraded to Ministry of Petroleum Resources.

1976

MPE renamed Ministry of Petroleum Resources (MPR)

Pan Ocean commenced production via Shell-BP's pipeline at a rate of 10,800 b/d

1977

Government established Nigerian National Petroleum Corporation (NNPC) by Decree 33; NNOC & MPR extinguished.

1979

Third Participation Agreement; NNPC increases its equity to 60%

Fourth Participation Agreement

BP's shareholding nationalised, leaving NNPC with 80% equity and Shell 20% in the Joint Venture.

Shell changed name from Shell-BP to Shell Petroleum Development Company of Nigeria (SPDC)

1984

NNPC/Shell joint Venture agreement consolidated.

1986

Signing of Memorandum of Understanding (MOU) with International Oil Corporations.

1989

Fifth Participation Agreement between NNPC 60% on the one hand and Shell 30%, Elf 5% and Agip 5% on the other hand;

Utorogu Gas Plant Commissioned;

Eleme LNG Shareholders Agreement signed

1991

NNPC signing of Memorandum of Understanding & joint Venture Operating Agreement (JOA) with IOCs.

1993

NNPC signed Production Sharing Contracts with SNEPCO;

Sixth Participation Agreement between NNPC 55%, Shell 30%, Elf 10%, Agip 5%.

The coming on stream of Elf's Odudu blend, offshore OML 100.

1995

SNEPCO started drilling first Exploration well.

NLNG's Final Investment Decision taken

1999

NLNG's First shipment of Gas out of Bonny Terminal.

2000

NPDC/NAOC Service Contract signed

Inauguration of Special Committee on the Review of Petroleum Products Supply and Distribution (SCRPPSD)

2001

Production of oil at Okono offshore field.

Inauguration of Petroleum Products Pricing Regulatory Committee

2002

NNPC signed new PSC agreements;

Liberalization of the Downstream Oil sector;
NNPC commenced retail outlet scheme;
Inauguration of a 28-member EITI National Stakeholders' Working Group.

2003

Total Liberalization of the Downstream Oil Sector;
Shell Achieved 1 million Barrels per day production;
Petroleum Products Pricing Regulatory Bill passed and signed into law.

2004

Shell Restructuring Exercise that changed business approach and placed Nigerians on top management positions.

2005

Basil Omiyi appointed Shell's first Nigerian Managing Director; Shell headquarters moved from Lagos to Port Harcourt;
Oando became the first African oil company to be listed on the Johannesburg Stock Exchange.

Surveys for Oil and Gas and Mapping of Oil and Gas Blocs

Types of Oil and Gas Survey

There are two principal types of oil and gas survey employed by petroleum geologists to determine where oil and gas might be. These are reconnaissance survey and seismic survey. While reconnaissance survey is long range survey, seismic survey is close range. The two types of survey will be dealt with here in the order they are mentioned.

Reconnaissance Survey

Reconnaissance survey is the examination of an area at some distance, but with sufficient details to make generalization on the likelihood of oil and gas in the area possible. Reconnaissance survey of oil and gas is the type of survey used to gather initial information regarding the presence or absence of oil and gas in a particular area. Reconnaissance survey is regional sensing for oil and gas. This regional sensing is either through aero-magnetic or electro-magnetic means. Using aeroplane with air-borne sensors and flying over an area, the air-borne sensors pick anomalies that indicate prospects of petroleum in the area. Similarly using electro-magnetic devices and moving about in a vehicle or vessel, the likelihood of the presence of petroleum in an area may be determined by picking of anomalies by the electro-magnets. All these may be referred to as remote sensing or in the case of aero-magnetic in particular, it may be referred to as the aerial campaign for hydrocarbons. However, to pin down the petrol by determining where it is on the ground, seismic survey is required.

Seismic Survey

Seismic survey is the employment of various survey techniques and instruments by petroleum geologists exploring and prospecting for oil and gas to determine the likelihood or prospects of these natural resources in a defined area on the ground. In American military jargons, seismic survey may be referred to as having the boots of petroleum exploration geologists on the ground.

Seismic Survey, Seismic Data Acquisition, Processing and Interpretation

Geologists use seismic surveys to search for geological structures that may form oil reservoirs. The *classic* method includes making an underground explosion nearby and

observing the seismic response that provides information about the geological structures under the ground. However, *passive* methods that extract information from naturally-occurring seismic waves are also used. Other instruments such as gravimeters and magnetometers are also sometimes used in the search for petroleum.

Seismic data are facts gathered from exploration for oil through such activities as surveys, earth blasting operations and result of analysis of samples of rocks and soil obtained through shootings that characterize oil exploration. Seismic data acquisition is through the above exploration earth blasting operations. The seismic data obtained can be either 2D, 3D or 4D data. 2D is preliminary data that may be said to raise a mere possibility of the presence of oil in the area it is obtained over. 3D is advanced data that may be said to raise a probability of the presence of oil over the area it is obtained. 4D is repeated 3D data that may be said to raise a real probability of petroleum in the area over which it is obtained.

In Nigeria, usually the process of acquiring the various types of data is as follows: IDSL or some other data acquisition institution employs by IDSL acquires 2D data and gives it to IDSL. IDSL then hands over the 2D data to DPR. After DPR has been given 2D data by IDSL, it may issue tenders for bids of oil blocs covered by the 2D data or keep them for future use. If DPR issues tenders for bids, oil companies desiring to bid for tendered oil blocs before making a bid for an oil bloc either buy the 2D data from DPR or pay a token sum to have a look at the data.

Apart from IDSL, there are private seismic companies, which with the approval of DPR carry out reconnaissance and seismic surveys. An oil company intending to bid for an oil bloc can buy 2D seismic data from such companies or pay a token sum to have a look of the data.

After a successful bid, the successful company may repeat 2D data process or go for 3D data operations. 3D seismic is gathered using the best available seismic data collection technology that can reveal the presence or absence of oil in an oil bloc. The availability of inexpensive high quality 3D seismic data reduces cost and increase profits. If after acquiring 3D data, it is not followed immediately with exploration drilling to locate oil, 4D seismic data may be run to reaffirm the 3D data.

Reg. 31 of the Petroleum Drilling and Production Regulations provide that no person shall carry out seismic data survey in any concession area unless the person has been issued a permit by the Director of Petroleum Resources. Requiring permit only in respect of seismic survey of concession areas, Reg. 31 has no application on 2D data acquisition by IDSL which is always over areas that are not concessions. Though there may be no legal requirement for IDSL to seek DPR's approval before carrying out 2D seismic operations, for control of the process of 2D seismic data acquisition, IDSL needs to confer with DPR the regulator of seismic data acquisition. More so, if IDSL is employing another seismic data acquisition company to acquire 2D data for it.

Also there is no legal requirement for IDSL or any other oil data acquiring company to seek DPR's permission before embarking on reconnaissance survey. However, as is in the case with seismic data acquisition in non-concession areas, for

DPR to have control over reconnaissance survey exercise, IDSL or such other company should seek DPR's permission before embarking on reconnaissance survey. The application for permit to carry out seismic data acquisition is required to be made in writing and addressed to the Director of Petroleum Resources. It should be made at least a month prior to the commencement of the survey and should be accompanied by a N500.00 permit fee.¹ An application for permit shall state among other things the following:

- i. The objective of the proposed acquisition and the location of the prospecting license or oil mining lease;
- ii. The density and quality of previous vintages if any on the said areas of the concession;
- iii. The justification for the magnitude of subsurface coverage being applied for;
- iv. The terrain and duration of the survey;
- v. The name of the geophysical party and location;
- vi. The base map of the area;
- vii. The equipment type and specifications;
- viii. A copy of a similar letter of intent issued by the hydrographer of Nigeria of the Nigerian Navy in the case of marine operations;
- ix. The estimated cost per kilometre; and
- x. Any other relevant information.

All the above enumerated issues are relevant considerations that would help the Director of Petroleum Resources in coming to a decision whether to grant the survey permit or not. Though the Director enjoys a discretion to grant or refuse to grant a permit to carry out survey for seismic data acquisition, he must exercise his discretion in accordance with reason and commonsense; more so that the application for permit is pursuant to a successful bid. This means that if an applicant for a permit to carry out seismic operations satisfies the requirements for the grant of a survey permit, the Director should grant it, failing which his exercise of discretion may be challenged in court by the applicant.

Mapping of Oil Blocs

Oil blocs are laid using Global Positioning System (GPS). Using satellites, a GPS is able to pick the coordinates, i.e. points of longitude and latitude intersections, in an oil field or bloc and thus lay out the oil field or bloc based on its dimension.

Onshore, oil blocs can also be laid out about the same way plots of land for building are laid out. In that case, beacons can be fixed at certain points to mark off the different oil blocs. It is in recognition of this fact that Reg. 47 of the Petroleum Drilling and Production Regulations provide for boundary marks.

¹ Reg. 31 (3) of the Petroleum Drilling and Production Regulations

With regard to offshore oil blocs, setting up boundary marks in the form of beacons would not be very helpful considering that the beacons would be buried by water and may even be eroded by it. The only means of marking off one offshore oil bloc from another is to use coordinates supplied by GPS. The said coordinates are then captured on paper and can be used to determine oil bloc boundaries in the event of dispute over oil bloc boundaries between licensees or lessees.

Petroleum Geology, Petroleum Engineering, Naming and Designation of Oil Fields, Wells and Discovery Reports

Petroleum Geology

Petroleum geology is the study of the origin, occurrence, movement, accumulation and exploration of hydrocarbon fuels. The search for petroleum by petroleum geologists and geophysicists is what oil exploration is all about. Oil and gas exploration are grouped under the science of petroleum geology. A source rock is a rock petroleum can be harvested. These rocks are invariably organic rocks. These rocks are the rocks petroleum geologists subject to more critical investigation for the presence of oil.

Oil seepages, natural gas seeps under water craters caused by escaping gas provide basic evidence of hydrocarbon presence. Most exploration depends on sophisticated technology to detect and determine the extent of oil deposits using exploration geophysics. Areas thought to contain hydrocarbons are initially subjected to gravity survey, magnetic survey and passive seismic or regional seismic reflective surveys to detect presence or absence of hydrocarbons.

Oil seepages known as leads are subjected to more seismic surveys, which work on the principle of the time reflected sound waves travel through matter (rock) of varying densities.¹ Seismic surveys also use process of depth conversion² to create a profile of the substructure. When a prospect is identified, an exploration well is drilled to determine the presence of oil and gas.

Petrol and gas migrates upward under pressure, but are trapped by rocks known as seal or cap rocks which have to be drilled to get the petrol or gas. Oil is contained in reservoir rocks. It collects in pores or rock marks similar to pock marks on a human face. Petroleum geology is principally concerned with the evaluation of seven key elements in sedimentary basins. These are source, reservoir, seal, trap, timing, maturation and migration.

¹ www.petroleumgeology.org

² Ibid

Source

Evaluation of the source uses method of geochemistry to quantify the nature of organic rich rocks, which contains the precursors to hydrocarbons.

Reservoir

The reservoir is a porous and permeable lithological unit or sets of units that hold the hydrocarbon reserves. Analysis of the reservoir at the simplest level requires an assessment of their porosity to calculate the volume of *in situ* hydrocarbons and their permeability to calculate how easily hydrocarbon will flow out of them.

Seal

A seal or cap rock is a unit with low permeability that impedes the escape of hydrocarbons from the reservoir rock.

Trap

This is the stratigraphic or structural feature that ensures the exposition of reservoirs and seal so that hydrocarbons remain trapped on the subsurface rather than escaping due to their natural buoyancy and be lost.

Maturation

Involves assessing the thermal history of the source rock in order to make predictions of the amount and timing of hydrocarbon generation and expulsion.

Migration

Reveals information on how hydrocarbons move from source to reservoir and help quantify the source (or kitchen of hydrocarbons in a particular area. There are two types of migration viz: primary and secondary migration. Primary migration is migration from the source rock to the reservoir rock. Oil and gas generally do not originate from the reservoir rock where they are found, but migrate from source or host rocks at considerable depth below. Secondary migration is subsequent movement of hydrocarbons within the reservoir rock.

Timing

It is the measurement of the speed and rate of movement of petroleum in its upward migration.

Petroleum Engineering

Petroleum engineering is a field of engineering concerned with activities related to the production of hydrocarbons, which can be either crude oil or natural gas. If petroleum geology finds the oil, petroleum engineering brings it out. After exploration

has found oil, drilling to produce the oil is basically the work of petroleum engineering.³

Oil Drilling

Extracting crude oil normally starts with drilling wells into the underground reservoir. When an oil well has been tapped, a geologist known on the rig as the *mudlogger* notes its presence.⁴ In the USA, some oil fields existed where the oil rose naturally to the surface. However, most of these fields have long been used up, except in certain places in Alaska.

The oil well is created by drilling a long hole into the earth with an oil rig. A steel pipe called casing is placed in the hole to provide structural integrity to the newly drilled wellbore. Holes are then made in the base of the well to enable oil pass into the bore. Finally a collection of valves called a *Christmas Tree* is fitted to the top of the well, the valves regulating pressures and controlling flows.

Types of Oil Wells

There are basically three types of oil wells namely: exploration oil well, appraisal oil well and development oil well. The exploration oil well is a frontier activity. It is a well drilled based on a prospect that has been proposed by a geologist that oil is in a particular spot. By its very character, an exploration well is the most risky and expensive type of oil well. To underscore the risk in an exploration well, it is called a wildcat in the U.S.

While an exploration well seeks to find oil in a particular area, an appraisal well seeks to determine the quantity of oil in a particular place. An appraisal well is a quantity assessment well. It seeks to determine whether oil found by an exploration well is in commercial quantities or not.

A development well is a well that follows an appraisal well. It is a well drilled when oil has been found in commercial quantity by an appraisal well. The development well leads to oil extraction. A development well is far less risky and expensive compared to an exploration and appraisal well.

Getting oil out of the Well

After an oil well has been drilled, several methods are used to force the oil up from the reservoir to extract the crude oil. *Natural lift*⁵ production methods are methods that

³ Petroleum engineering is the discipline responsible for evaluating which well locations and recovery mechanisms are appropriate for a reservoir. It is also responsible for estimating recovery rates and oil reserves prior to actual extraction.

⁴ The mudlogger sits on the rig and so is able to note the presence of oil.

⁵ Natural lift is also called *primary recovery method*. Reservoir drive comes from a number of natural mechanisms. These include: natural water displacing oil downward into the well, expansion of the natural gas at the top of the reservoir, expansion of gas initially dissolved in the crude oil, and gravity drainage resulting from the movement of oil within the reservoir from the upper to the lower parts where the wells are located. While the underground pressure in the oil reservoir is sufficient to force the oil to

rely on the natural reservoir pressure to force the oil to the surface. *Natural lift* methods are usually sufficient for a while after reservoirs are first tapped. In some reservoirs, such as those in the Middle East, the natural pressure is sufficient over a long time. The natural pressure in most reservoirs, however, eventually dissipates. Then the oil must be extracted using *artificial lift* means. The first *artificial lift* is called *secondary production method*. It uses *waterflooding* or injection of water into the reservoir to increase pressure and force the oil to the drilled shaft or *wellbore*.⁶ When *secondary method* can no longer bring out oil, the second artificial lift called *tertiary* or *enhanced* oil recovery method⁷ may be used to increase the oil's flow. The tertiary method injects steam, carbon dioxide and other gases or chemicals into the reservoir to generate pressure that forces the oil up.⁸ Tertiary or enhanced oil recovery method is very expensive. Its profitable use depends on the price of oil in the oil market. If the price of oil is high, the high cost of producing oil through enhanced oil recovery method will be offset by the high oil price. If on the other hand oil prices are low, it might not be profitable using tertiary or enhanced oil recovery method to produce oil. Even when oil prices are high, the use of enhanced oil recovery method should be guided by the quantity of oil to be realistically produced by this method of oil production. Thus if not much oil will be produced by this method, it may not

the surface, all that is necessary is to place a complex arrangement of valves (the Christmas tree) on the well head to connect the well to a pipeline network for storage and processing.

⁶ Secondary production method may be used to pump water, steam, acids or various gas mixtures into the reservoir to raise or maintain the reservoir pressure, and so maintain an economic extraction rate. Over the lifetime of the well the pressure will fall, and at some point there will be insufficient underground pressure to force the oil to the surface. After natural reservoir drive diminishes, *secondary recovery* methods are applied. They rely on the supply of external energy into the reservoir in the form of injecting fluids to increase reservoir pressure, hence replacing or increasing the natural reservoir drive with an artificial drive. Secondary recovery techniques increase the reservoir's pressure by water injection, natural gas reinjection and gas lift, which injects air, carbon dioxide or some other gas into the bottom of an active well, reducing the overall density of fluid in the wellbore. Typical recovery factor from water-flood operations is about 30%, depending on the properties of oil and the characteristics of the reservoir rock. On average, the recovery factor after primary and secondary oil recovery operations is between 35 and 45%.

⁷ Tertiary recovery begins when secondary oil recovery isn't enough to continue adequate extraction, but only when the oil can still be extracted profitably. This depends on the cost of the extraction method and the current price of crude oil. When prices are high, previously unprofitable wells are brought back into use and when they are low, extraction is curtailed. Microbial treatments is a tertiary recovery method. Special blends of the microbes are used to treat and break down the hydrocarbon chain in oil thus making the oil easy to recover as well as being more economic versus other conventional methods.

⁸ Secondary and tertiary methods of oil recovery may be referred to as squeezing the oil out or sweeping the oil well clean of oil. In practice however, it is impossible to get out all the oil in an oil reservoir. There is always residual oil in the reservoir that cannot be forced out by existing oil recovery technologies. If an oil company can develop a technology that recover all residual oil in a reservoir, such company will be an exceedingly rich company. There are instances when after an exploited oil well has been abandoned because oil recovery from it is no longer possible, when the well is returned to several years later, oil would be found in it. It is worth investigating if the residual oil in the well can generate more oil in the reservoir.

profitably be resorted to even if oil prices are high in the oil market regard being had to volatility and fluctuation of oil prices.⁹

In the United States, primary production methods account for less than 40 per cent of the oil produced on a daily basis, secondary methods account for about half, and tertiary recovery the remaining 10 per cent. Extracting oil or bitumen from oil or tar sand and oil shale deposits requires mining the sand or shale and heating it in a vessel or retort, or using *in-situ* methods of injecting heated liquids into the deposit and then pumping out the oil-saturated liquid. Oil extraction is simply the removal of oil from the reservoir (oil pool). Oil is often recovered as a water-in-oil emulsion, and specialty chemicals called demulsifiers are used to separate the oil from water.

The amount of oil that is recoverable from a well is determined by a number of factors including the permeability of the rocks, the strength of natural drives the gas present, pressure from adjacent water or gravity, and the viscosity of the oil. When the reservoir rocks are *tight* such as shale, oil generally cannot flow through; but when they are permeable such as in sandstone, oil flows freely. The flow of oil is often helped by natural pressures surrounding the reservoir rocks including natural gas that may be dissolved in the oil, natural gas present above the oil, water below the oil and the strength of gravity. Oils tend to span a large range of viscosity from liquids as light as gasoline to heavy as tar. The lightest forms tend to result in higher extraction rates.

Although *ultimate recovery* of a well cannot be known with certainty until the well ceases production, petroleum engineers will often estimate an estimated ultimate recovery based on decline rate projections into the future.

Types of Drilling for Oil

There are basically six different modes of drilling for oil. The mode an oil bloc owner or his petroleum engineer adopts depends on the location of oil in underlying oil bearing organic rocks. The location of oil deposits in underlying rocks is usually revealed by appraisal and exploration drilling accompanied by geological and geophysical studies.

There are generally six types of drilling for oil production. These are vertical drilling, horizontal drilling, directional drilling, multilateral drilling, extended reach drilling and complex path drilling. The various types of drilling would be examined here in the order they are referred to.

i. Vertical Drilling

Traditionally oil and gas wells are vertically drilled. However, technological advancement has allowed operators to save time, reduce operational costs and lessen their environmental impact by resorting to new drilling technologies which include:

⁹ Man is too hungry and impatient to allow nature do things the slow and natural way it does things. In his hungry and impatient state, man plucks shale oil and shale gas to incubate them into hatching chicks, when left to mature such oil and gas would have ripened in due season. In his hungry and impatient, man resorts to secondary and tertiary methods of oil recovery when nature left to its slow and natural way of doing things would have even without drilling brought oil to the earth surface.

ii. Horizontal Drilling

This drilling starts with a vertical well that turns horizontal within the reservoir rock in order to expose more open hole to the reservoir. These horizontal legs can be over a mile long; the longer more oil and natural gas is drained and the faster it can flow. Horizontal reduce surface disturbance by requiring less wells to reach the reservoir. Also they can produce 15 to 20 times as much oil and gas as a vertical well.

iii. Directional Drilling

Directional or slant drilling is a non-vertical drilling that closely resembles horizontal drilling. Directional drilling evolved from the realization that oil and gas may not be accessed only vertically but may be accessed horizontally. This realization came from several law suits alleging that oil wells drilled from a rig in one property had crossed the boundary and were penetrating a reservoir on an adjacent property. Among other reasons for directional drilling are (i) drilling into reservoirs where vertical access is difficult or impossible, e.g. an oilfield under a town, under a lake or underneath a difficult drill formation. (ii) make for less surface disturbance and saves cost. 40 or more wells and wellheads can be grouped together under one surface directional drilling well. The wells will fan out from the platform into the reservoirs below. Good as directional drilling is, it has its drawbacks. It might by a lessee to steal oil from a neighbouring oil acreage. In 1990, Iraq accused Kuwait of stealing its oil through directional drilling. This accusation was one of the reasons Iraq invaded Kuwait in 1991.

iv. Multilateral Drilling

Sometimes oil and natural gas reserves are located in separate larger underground chambers. Multilateral drilling allows operators to branch out from the main well to tap reserves at different depths. This dramatically increases production from a single well and reduces the number of wells drilled on the surface. Multilateral wells are drilled into the same reservoir to ensure that the oil extraction rate will be economically viable.

v. Extended Reach Drilling

This type of drilling allows producers to reach deposits that are great distances away from the drilling rig. This can help producers tap oil and natural gas deposits under surface areas where a vertical well cannot be drilled such as environmentally sensitive areas. By extended reach drilling, wells can reach out over five miles from the surface location. By this method of drilling, dozens of wells can be drilled from a single location, reducing surface impacts.

vi. Complex Path Drilling

Complex well paths can have multiple twists and turns to try to hit multiple accumulations from a single well location. Using this technology can be more cost effective and produce less waste and surface impacts than drilling multiple wells.

Except for the first and perhaps the second type of drilling for oil, the last four types of drilling for oil are modern types of drilling techniques. Benefits of modern drilling technologies include:

- i. Improved oil production and increased reserves.
- ii. Intersecting natural fractures that cannot be accessed with vertical wells.
- iii. Delaying the onset of gas or water coming (the upward movement of water or the downward movement of gas into perforations of a producing well) so that more oil is produced.
- iv. Improve production from thin or tight reservoirs.
- v. For reservoirs injected with fluids to increase oil or gas production, these technologies improve water flood sweep efficiency or the ability to force more oil out of the reservoir after initial extraction.

As an oil well gets old, pressure which forces the oil up begins to fail. This often calls for artificial lift by water flooding (secondary method of oil recovery) or artificial lift by injection of steam, carbon dioxide and other gases (the tertiary method of oil recovery). Either of these methods of enhanced oil recovery generates pressure that will increase producibility thereby increasing the life span of the oil well.¹⁰ Recognizing this fact Reg. 42 of the Petroleum Drilling and Production Regulations in providing for pressure decline study report provides thus:

- i. Prior to or upon the attainment of a 10 per cent decline in the initial reservoir pressure, the licensee or lessee shall commence or cause to be commenced a study to determine the economic practicability of instituting a secondary recovery or pressure maintenance project and its recommended timing.
- ii. A full report of the result of the study shall be submitted to the Director of Petroleum Resources as soon as possible.

Naming and Designation of Oil wells and Fields

The Petroleum Drilling and Production Regulations made pursuant to the Petroleum Act provide for naming and designation of oil wells and fields. Section 34 of the said Regulations provides as follows:

- (1) Every well shall be identified by a unique designation for which the licensee or lessee shall obtain the prior approval in writing of the Director of Petroleum Resources.
- (2) The designation of a well shall in general consist of the name of the field in which the well is to be drilled, followed by the serial number, which indicates the chronological order in the drilling sequence for the field. It is because of this legal provision that in an oil field such as Bonga, there is Bonga 1 and Bonga 2 in the chronological order the oil fields were developed. Not only oil fields, oil refineries and gas projects are similarly named and numbered.

¹⁰ Perhaps in such situation, well intervention in the form of a workover that reduces the tubing may be contemplated as a means of increasing pressure.

- (3) All fields shall bear names in a Nigerian vernacular language, which shall in general refer to any geographical, topographical or other general features in the vicinity of the field, and may be chosen from the names of the flora and fauna or any parts thereof of the country, or from any local numerals, provided that, as an alternative to the foregoing provision of this paragraph, fields may be designated by the short title by which the licensee or lessee is commonly identified followed by an alphabetical representation consisting of not more than two letters.
- (4) No field may be named after an individual without the specific permission in writing of the Minister, and in any case no field shall be named after a living person or after a non-Nigerian.
- (5) The designation of a well may not be altered simply because a part of the hole was deviated or whipstocked¹¹ or because the well was re-drilled to a lower target; provided that:
 - (a) where an original hole was plugged back and abandoned but another hole was drilled directionally to another target area, the new directional hole shall have a unique number if the new bottom is at least 100 yards from the bottom of the original hole;
 - (b) other prefixes, suffixes or any other additional letters or characters may with the prior approval of the Director of Petroleum Resources (who shall first be satisfied of the necessity for the addition) be appended to the designation of any well.
- (6) The licensee or lessee shall not change the designation, status or classification of a well or field without the approval in writing of the Director of Petroleum Resources.

Naming and designation of an oil well or field after a natural feature achieves three things. First, it identifies the field; secondly it makes its location known, and thirdly it obviates the confusion of having two oil fields or wells by the same name. The prohibition of naming a well or field after a living person or a non-Nigerian gives prestige to oil fields and wells and preserves their Nigerian identity.

Discovery Reports

Reg. 50 provides for discovery reports. It provides that: 'The licensee or lessee shall forthwith report to the Director of Petroleum Resources, the discovery of petroleum or petroleum-bearing strata.' Reports like this enable the Director of Petroleum Resources to know at every material time the quantity of the nation's oil resources and their location.

¹¹ A whipstock generally means the handle of a whip. In the sense it is used here, it means a long steel casing that uses an inclined plane to cause the bit to deflect from the original borehole at a slight angle.

Oil Exploration, Oil Prospecting and Oil Mining

Definition of Oil Exploration and Oil Prospecting

Broadly speaking exploration and prospecting for oil are the same and are often used interchangeably. Strictly speaking, however, the two terms have a tenuous distinction. When seen as synonymous both exploration and prospecting for oil are seen as the search for oil that leads to its discovery. When seen as concepts that capture different stages of the search for oil, exploration would mean initial activities in the search of oil that leads to the discovery of a prospect of oil in the searched area. From the point of discovering a prospect, oil exploration turns to oil prospecting. The 1969 Petroleum Act seems to see the two terms not as synonymous, but as different terms and accordingly provided for the grant of licences for oil exploration and oil prospecting. So also does the Petroleum Industry Bill.¹ The later law as the former also provides for oil exploration and oil prospecting licence. Though these laws provide for the grant of oil exploration and oil prospecting licences, in practice only oil prospecting licences are granted. In the circumstances, a prospecting licence granted operates both as a prospecting licence and an exploration licence. It begins as an exploration licence and converts to a prospecting licence when a prospect is discovered.

An avoidable confusion is created by the law providing for oil exploration and oil prospecting licence, but in practice only an oil prospecting licence is granted. There is need to reconcile legal theory with legal practice in this area of oil and gas law. Either the law should be amended to provide for only a prospecting licence in which case a prospecting licence will be defined to cover oil exploration or to be synonymous with oil exploration, or the law remains in its current state, but in practice both an oil exploration and an oil prospecting licence will be granted. For efficiency and to reduce clogs on the wheel of oil business, the first option is preferable to the second.

Section 2 (1) (a) and (b) of the Petroleum Act, 1969 provides that the Minister of Petroleum may grant an oil exploration licence and an oil prospecting licence² for the

¹ See section 172 (1) of the Petroleum Industry Bill.

² A licence to explore or prospect for oil or gas is in the nature of a *profit a prendre*. A *profit a prendre* is a right or privilege to go into another person's land and take away something of value from its soil or from the produce of its soil as by mining, logging or hunting. An oil or gas mining lease is a *profit a prendre*. It is not an interest in immovable property.

licensee to explore and prospect for petroleum. Issues that arise from the above provision of the Petroleum Act have to do with whether:

- i. The grant of an oil exploration licence is an automatic incidence of the award of an oil bloc after a bid or it is made pursuant to an application?
- ii. The grant of a prospecting licence is on application after exploration has discovered a prospect?

The Petroleum Drilling and Production Regulations made pursuant to the Petroleum Act seem to provide an answer to the first question raised above. Reg. 1 (1) of the said Regulations provide that: 'Every application for an oil exploration licence, oil prospecting licence and oil mining lease shall be made to the Minister in writing on the appropriate form as set out in the schedule to these Regulations.'

The above regulation clearly stipulates the making of an application for an oil exploration and prospecting licence. It also provides for application for an oil mining lease. This effectively answers the first query, but not the second. The second query may however be answered by commonsense and logic. Since in practice only a prospecting licence is granted, it is against commonsense and logic to apply for a prospecting licence after exploration has revealed a prospect the licensee being already in possession of a prospecting licence.

An application for an oil exploration, oil prospecting licence or oil mining lease should be accompanied by:

- (a) The prescribed fee of \$10,000 for an oil exploration and oil prospecting licence; \$10,000 application processing fees; and \$500,000 for an oil mining lease;
 - (b) Ten copies of a map on a scale or scales specified by the Director of Petroleum Resources on which is delineated in red the boundaries of the area in respect of which the application is made;
 - (c) An adequate survey description of the boundaries of the area.
 - (d) Evidence of financial status and technical competence of the applicant;
 - (e) Details of the work which the applicant is prepared to undertake or programme for carrying out the minimum working obligations imposed;
 - (f) Details of annual expenditure which the applicant is prepared to make on each area applied for;
 - (g) The date on which the applicant is prepared to begin operations after the grant of the oil exploration licence, oil prospecting licence or oil mining lease to which the application relates;
 - (h) Details of a specific scheme for recruiting and training of Nigerians;
 - (i) Evidence of the applicant's ability to market any petroleum produced;
 - (j) Annual reports in respect of the applicant's oil exploration and production activities in the preceding three years; and
-

- (k) Any other information the Minister may call for by notice in the Federal Gazette or otherwise.³

Grant of Oil Exploration, Oil Prospecting License and Oil Mining Lease by the Minister of Petroleum

Section 2 (1) of the 1969 Petroleum Act provides that the Minister of Petroleum may grant:

- (a) a licence, to be known as an oil exploration licence, to explore for petroleum;
- (b) a licence, to be known as an oil prospecting licence, to prospect for petroleum; and
- (c) a lease, to be known as an oil mining lease, to search for, win, work, carry away and dispose of petroleum.

Subsection 2 of section 2 provides that a licence or lease under this section may be granted only to a company incorporated in Nigeria under the Companies and Allied Matters Act or any corresponding law.

Section 8 of the 1969 Petroleum Act provides that the Minister of Petroleum:

- (a) shall exercise general supervision over all operations carried on under licences and leases granted under the Act;
- (b) shall report annually to the Federal Government on the progress of the oil industry in Nigeria;
- (c) shall have access at all times to the areas covered by oil exploration licences, oil prospecting licences and oil mining leases, and to all refineries and installations which are subject to the Act, for the purpose of inspecting the operations conducted therein and enforcing the provisions of the Act and any regulations made thereunder and the conditions of any licences or leases granted under the Act or under any corresponding law for the time being in force in Nigeria;⁴
- (d) may arrest without warrant any person whom he finds committing, or whom he reasonably suspects of having committed, any offence under the Act or any regulations made thereunder, and shall hand over any person so arrested to a police officer with as little delay as possible;
- (e) may by notice in writing require the holder of a licence or lease granted under the Act or any contractor working for the holder (or any servant or agent of the holder or the contractor) to appear before him at a reasonable time and place to give such information as he may require about operations being conducted

³ See Reg. 1 (2) and 59 of the Petroleum Drilling and Production Regulations

⁴ Under section 8 (2) of the 1969 Petroleum Act, the Director of Geological Survey like the Minister of Petroleum shall have access at all times to the areas covered by oil exploration licences, oil prospecting licences and oil mining leases for the purpose of inspecting geophysical and geological operation therein.

under the licence or lease, and every person so required to appear shall be legally bound to comply with the notice and give the information;

- (f) may direct in writing that operations under a licence or lease granted under the Act shall be suspended in any area until arrangements have been made which in his opinion are necessary to prevent danger to life or property;
- (g) may direct in writing the suspension of any operations which in his opinion are not being conducted in accordance with good oil field practice; and
- (h) may direct in writing the suspension of any operations where in his opinion a contravention of this Act or any regulations made thereunder has been or may have been or is likely to be committed.

Oil prospecting licences

Section 5 of the 1969 Petroleum Act provides that the holder of an oil prospecting licence shall have the exclusive right to explore and prospect for petroleum within the area of his licence. The duration of an oil prospecting licence shall be determined by the Minister, but shall not exceed five years (including any periods of renewal).⁵ The holder of an oil prospecting licence may carry away and dispose of petroleum won during prospecting operations, subject to the fulfilment of obligations imposed upon him under the Act or by the Petroleum Profits Tax Act or any other law imposing taxation in respect of petroleum.⁶

Oil mining leases

An oil mining lease may be granted only to the holder of an oil prospecting licence who has satisfied all the conditions imposed on the licence or otherwise imposed on him by the Act; and discovered oil in commercial quantities.⁷ For the purposes of the Act, oil shall be deemed to have been discovered in commercial quantities by the holder of an oil prospecting licence if the Minister, upon evidence adduced by the licensee, is satisfied that the licensee is capable of producing at least 10,000 barrels of crude oil per day from the licensed area.⁸

By the above provision, an oil mining lease is often granted to the holder of an oil prospecting licensee who has discovered oil in commercial quantities. It is understandable why this should be the case. Except where a licensee has failed to satisfy the conditions in his licence or imposed on him by law, or his development plan has not been approved, it will be unfair for an oil prospecting licensee to prospect and find oil only for an oil mining lease over the oil he has found to be granted to another person.

⁵ Ibid section 6

⁶ Ibid section 7

⁷ Ibid section 8 (1)

⁸ Ibid section 9

However, there are situations an oil mining lease may be granted to a non-holder of an oil prospecting licence. For instance, an oil mining lease may be granted to a non-holder of a prospecting licence over a surrendered, a relinquished, a revoked or an unrenewed mining lease.

Section 172 (1) of the 2012 Petroleum Industry Bill provides that the Minister of Petroleum may grant:

- (a) a petroleum exploration licence to carry out exploration on a non-exclusive basis;
- (b) a petroleum prospecting licence to prospect for petroleum; and
- (c) a petroleum mining lease to search for, win, work, carry and dispose of petroleum.

Section 172 (2) of the PIB provides that where the Minister decides to grant a licence or lease, it shall be awarded (a) to the winning bidder pursuant to the bid process provided the winning bidder has complied with all requirements specified in the bid process, or (b) directly to the existing licensee.

There is no provision like this in the 1969 Petroleum Act. The import of the provision and its necessity are difficult to discern. Does the first paragraph dispenses with the need for a bidder to make an application for a licence or lease or it is pursuant to an application for a licence or lease? If it dispenses with an application for a licence or lease, to what will the Minister tie the licence or lease? If it does not dispense with an application, what is its necessity? Paragraph (b) of the provision standing alone does not make much sense. Neither does it when read with reference to section 193 of the Bill that it is made pursuant to. In sum this provision appears to be an unnecessary provision that does not add much to the Act. The provisions of the 1969 Petroleum Act on the grant of oil exploration and prospecting licences and oil mining lease by the Minister of Petroleum are better and should not have been departed from by section 172 (2) of the PIB.

Section 172 (3) of the Bill provides that the Minister may grant a petroleum exploration licence to any area excluding areas that are the subject of petroleum prospecting licences or petroleum mining leases. Like under the 1969 Petroleum Act,⁹ an exploration licence confers a non-exclusive right on the licensee while a prospecting licence or mining lease confer an exclusive right over the licensed area or lease area on the licensee or lessee.

The Bill further provides that a licence or lease may be granted only to a company incorporated in Nigeria under the Companies and Allied Matters Act and to a company that qualifies as an upstream oil operator.¹⁰ This provision is similar to section 2 of the Petroleum Act, except that the Petroleum Act does not like the Bill require the company to also be an operator.

⁹ Ibid paragraph 2 of the first schedule to the 1969 Petroleum Act

¹⁰ See section 172 (5) and (6) of the Petroleum Industry Act

Section 173 (1) of the Bill provides that by the grant of a licence or lease, the licensee or lessee becomes automatically entitled to enter into any contract for the exploration, prospecting, production and development of oil or gas in respect of any licence or lease held by the licensee or lessee upon such terms and conditions as the licensee or lessee may determine and with any qualified company. This provision states the obvious or what may be left to inference and therefore, except for the provision of section 173 (2) founded on it, it does not add anything to the Act. This provision is not in the 1969 Petroleum Act.

Section 173 (2) of the Bill provides that the power given to the licensee or lessee to enter into contracts does not confer on him the right to assign an interest in any licence or lease except with the consent of the Minister.¹¹

Character of an Oil Exploration, Oil Prospecting License and Oil Mining Lease

Paragraph 2 of the first schedule to the 1969 Petroleum Act provides that an oil exploration licence shall not confer any exclusive rights over the area of the licence, and the grant of an oil exploration licence in respect of any area shall not preclude the grant of another oil exploration licence or of an oil prospecting licence or oil mining lease over the same area or any part thereof.

While an oil exploration licence confers only a non-exclusive right on the licensee, an oil prospecting licence and an oil mining lease on the other hand confer exclusive prospecting and mining rights on the oil prospecting licensee and oil mining lessee. In this regard, paragraph 1 of the first schedule to the 1969 Petroleum Act provides that an oil exploration licence shall apply to the area specified therein which may be any area on which a premium has not been placed by the Minister, and shall authorise the licensee to undertake exploration for petroleum in the area of the licence, excluding land in respect of which the grant of an oil prospecting licence or oil mining lease has been approved by the Minister and land in respect of which an oil prospecting licence or oil mining lease is in force.

Paragraph 11 of the same schedule provides that subject to the Act, the lessee of an oil mining lease shall have the exclusive right within the leased area to conduct exploration and prospecting operations and to win, get, work, store, carry away, transport, export or otherwise treat petroleum discovered in or under the leased area.

An oil exploration licensee having a non-exclusive right to explore the area covered by his licence, other licensees may be exploring the same area with the oil exploration licensee. But can oil prospecting licensees or oil mining lessees be prospecting or mining the same area the oil exploring licensee is exploring for oil? By the provision of the law, it seems this can be the case. It seems after an oil exploration licensee has been granted an oil exploration licence, other persons may be granted oil

¹¹ See section 173 (2) and 194 (2) of the Petroleum Industry Bill.

prospecting licences or oil mining leases over the same area. This however is not likely to happen in practice. Though the law provides for oil exploration and oil prospecting licence, in practice only an oil prospecting licence is granted. Since an oil prospecting licence is exclusive it cannot be granted over an area already subject to an oil exploration licence it being granted over an exclusive area. Also since an oil mining lease is exclusive, it cannot be granted over an area already subject to an oil exploration licence. Being both exclusive, an oil exploration licence can also not be granted over an area already subject to an oil prospecting licence or oil mining lease.

Registration of Oil Prospecting License and Oil Mining Lease

Offshore oil exploration, oil prospecting licences and oil mining leases are registrable instruments under the Offshore Oil Revenues (Registration of Grants) Act.¹² They are registrable in the Land Registry of the state the offshore acreage covered by the licence or lease is contiguous to. Unlike offshore oil exploration, oil prospecting licences and oil mining leases, however, onshore oil exploration, oil prospecting licences and oil mining leases are not generally registrable instruments. They are only registrable if the law of the state in which the acreage covered by the oil exploration, oil prospecting and oil mining lease is situated requires registration of the licence or lease. If such is the case, then the licensee or lessee at his own cost is required to register the licence or lease as required by the relevant state law.¹³ He is also required to supply one copy of the registered licence or lease to the Minister of Petroleum Resources.¹⁴

The holder of an oil exploration, oil prospecting licence and oil mining lease is required to appoint a manager resident in Nigeria to supervise the operations under the licence or lease and should notify the Director of Petroleum Resources of the name and address of the appointed manager.¹⁵ Any notice required to be served on the licensee or lessee shall be deemed to be served on him if served on his manager.¹⁶

An oil exploration or an oil prospecting licence by the provisions of the Petroleum Act can only be granted to a citizen of Nigeria or a company incorporated in Nigeria under the Companies and Allied Matters Act.¹⁷ A citizen of Nigeria here implies an individual. The question is whether a human individual as opposed to a company can be granted an exploration or prospecting licence in Nigeria to explore or prospect for oil or an oil mining lease can be granted to an individual to mine oil in the country. Clearly the position of the law by various legislations is that only a company can be granted a licence to explore or prospect for oil or mine it.¹⁸

¹² CAP 336 Laws of the Federation of Nigeria 1990

¹³ See 8 of the Petroleum Drilling and Production Regulations

¹⁴ Ibid

¹⁵ Ibid Reg.9

¹⁶ Ibid

¹⁷ See section 2 (2) (a) and (b) of the 1969 Petroleum Act

¹⁸ See the oil Pipeline Act, The Local Content Act etc

Stamping of Oil Mining Leases

Whether registrable or not, all oil mining leases like leases over other types of property must be stamped and stamp duties paid according to the Stamp Duties Act.¹⁹ After registration and stamping, the counterpart of the Oil Mining Lease is forwarded to the Director of Petroleum Resources while the lessee retains the original copy.

Duration of Oil Exploration and Oil Prospecting License

Paragraph 3 of the first schedule to the 1969 Petroleum Act provides that an oil exploration licence shall terminate on 31 December next following the date on which it was granted, but the licensee shall have an option to renew the licence for one further year if:

- (a) he has fulfilled in respect of the licence, all obligations imposed upon him by the Act or otherwise;
- (b) the Minister is satisfied with work done and the reports submitted by the licensee pursuant to the licence; and
- (c) an application for renewal has been made at least three months before the date of expiry of the licence.

Paragraph 6 of the first schedule to the 1969 Petroleum Act provides that the duration of an oil prospecting licence shall be determined by the Minister, but shall not exceed five years (including any periods of renewal).

Paragraph 10 of the first schedule to the 1969 Petroleum Act provides that the term of an oil mining lease shall not exceed twenty years, but may be renewed in accordance with this Act.

Paragraph 13 provides that the lessee of an oil mining lease shall be entitled to apply in writing to the Minister, not less than twelve months before the expiration of the lease, for a renewal of the lease either in respect of the whole of the leased area or any particular part thereof; and the renewal shall be granted if the lessee has paid all rent and royalties due and has otherwise performed all his obligations under the lease.

The PIB provides that an oil exploration licence shall not be valid for a period in excess of three years and shall not include any right to win, get, work, store, carry away, transport, export or otherwise treat petroleum discovered in or under the licensed area.²⁰ The Bill does not seem to prescribe any punishment for any exploration licensee that does any of these acts.

Any petroleum exploration shall be under the supervision of the Inspectorate.²¹ This is to ensure that the Inspectorate guides and regulates it.

With respect to onshore and shallow water areas, a petroleum prospecting licence shall be for an initial period of three years and a renewal period of two years

¹⁹ CAP 411 Laws of the Federation of Nigeria 1990

²⁰ Ibid section 175 (2) PIB

²¹ Ibid section 175 (3)

with a possibility of further extensions due to appraisal periods²² or significant gas discovery periods.²³ The area an oil prospecting licence would be granted onshore and in shallow waters shall not be more than five hundred square kilometres and not less than a parcel i.e four square kilometres.²⁴

With respect to deep water areas and frontier acreage, an oil prospecting licence shall be for eight years, consisting of an initial prospecting period of five years and a three years renewal period.²⁵ The prospecting period may be extended due to appraisal periods and significant gas discovery period.²⁶ The initial prospecting area for deep waters and frontier acreage shall not be more than one thousand square kilometres and not less than one parcel, i.e. four square kilometres.²⁷

Petroleum Exploration Work Programme

Because of the technical character and the expenses of exploring for petrol, it needs planning. A work programme contains details of the planning for petroleum exploration and prospecting. It is a phased planning of exploration detailing the activities to be carried out in every phase.

An NNPC/IOC Production Sharing Contract usually provides for a Work Programme thus:

Within two months after the effective date and thereafter at least three months prior the beginning of another year, the Contractor shall prepare and submit for review and approval by the Management Committee a Work Programme and budget for the contract area setting forth petroleum operations the Contractor proposes to carry out during the ensuing year, or in the case of a first Work Programme and budget, during the remainder of the current year. The Management Committee shall review and approve such Work Programme...

Reference to the Contractor in the above quotation is reference to the IOC, while NNPC is referred to as the Corporation. Under this contract, the Contractor is required to spend pursuant to the Work Programme money not less than a certain amount in a given number of years. The Contractor is also required to submit a performance bond from a reputable international financial institution to cover the sum of money mentioned in the Work Programme. As the Contractor executes the

²² Appraisal period is a period investigating a prospect that can lead to a commercial oil discovery. Under the Bill the period allowed as appraisal period for onshore and shallow waters oil prospecting is two years. See section 178 (8) of the Bill

²³ Ibid. section 177 (a) A significant gas discovery period is a period the licensee investigates a prospect of gas discovery that may lead to commercial gas discovery. Under the Bill this period is two years.

²⁴ Ibid.

²⁵ Ibid 177 (b)

²⁶ Ibid.

²⁷ Ibid section 177 (b)

Work Programme, the amount due to NNPC (the Corporation) reduces proportionately.

Work Programme of Production Sharing Contracts is executed by a Management Committee. The Management Committee not only executes the Work Programme, it generally directs petroleum operations under PSC agreements. A typical Management Committee has the powers and duties of:

- i. Reviewing and approving all proposed Work Programmes and budgets;
- ii. Reviewing and approving any recommendation made by either party to the contract or a sub committee created by the contracting parties;
- iii. Ensuring that the Contractor carries out the decision of the Management Committee and conduct petroleum operations pursuant to the contract;
- iv. Considering decisions relating to relinquishment of some of the contract area by the Contractor;
- v. Settling claims and litigation in excess of a particular sum of money; and
- vi. Considering and approving sale or disposal of any item or moveable property relating to petroleum operations.

A Management Committee is usually composed of ten members, each party having five members. Which party of the two parties will appoint the chairman of the committee is usually provided for by the agreement. In most PSC agreements between NNPC with international oil corporations, NNPC appoints the chairman of the committee.

The 1969 Petroleum Act provides in the first schedule paragraph 25 (1) that the Minister may revoke any oil prospecting licence or oil mining lease if in his opinion the licensee or lessee is not conducting operations in a vigorous and businesslike manner in accordance with the basic work programme approved for the licensee or lessee.

The implication of this provision is that an oil prospecting licence and an oil mining lease are only granted by the Minister of Petroleum after the submission by the licensee or lessee of a work programme to the Minister and after approval of same by the latter.

The Petroleum Industry Bill on its part provides that a petroleum prospecting licence shall contain a requirement that mandates the licensee to commit to a Work Programme of exploring the licensed area using geological, geophysical and any other acceptable method of investigation for the purpose of arriving at an oil prospect. The licensee should be required by the licence to do this for the whole licensed area. The licensee should within eighteen months of being granted a licence, begin drilling operations with a modern petroleum well drilling outfit.²⁸ During the initial period of

²⁸ Ibid section 178 (1) and (2)

prospecting for oil, the licensee shall commit to drilling at least one exploration well²⁹ to a specified minimum depth.³⁰ The drill or drop policy of the government sounds through this provision.

Discovery of Oil and Gas

Exploration of oil throws up leads and prospects that may lead to discovery of oil and gas in commercial quantity. The law provides for what the licensee should do when its exploration generates such leads and prospects.

Paragraph 9 of the first schedule to the 1969 Petroleum Act provides that for the purposes of the Act, oil shall be deemed to have been discovered in commercial quantities by the holder of an oil prospecting licence if the Minister, upon evidence adduced by the licensee is satisfied that the licensee is capable of producing at least 10,000 barrels per day of crude oil from the licensed area.

The Petroleum Industry Bill provides that where the licensee makes a petroleum discovery during the initial period or renewal period, he shall inform the Inspectorate within one hundred and twenty days or within such extended time frame as may be granted by the Inspectorate and the licensee shall inform the Inspectorate whether he thinks his discovery merits an appraisal.³¹

It is not clear why the licensee is given such a long time to inform the Inspectorate of his discovery. Given that his licence is either for five or eight years depending whether he is prospecting onshore, offshore or in a frontier acreage, it is worth more the while of the licensee to make an earlier report of his discovery than wait a whole four months before reporting. The provision 'or within such extended time frame as may be granted by the Inspectorate,' is a bit puzzling. Why should there be need for the Inspectorate to extend the period it should be informed of the discovery? And since the Inspectorate already knows of the discovery as it should since it is required to supervise the prospecting, informing it of what it already knows is largely otiose.

Where a licensee considers that a discovery he has made merits an appraisal, he shall submit for the approval of the Inspectorate a commitment to an appraisal programme of not more than two years and an appraisal area not larger than his licensed area.³² The Inspectorate is required to decide on the appraisal programme within sixty days of submission of the application.³³

²⁹ An exploration well is a well which in the opinion of the Upstream Petroleum Inspectorate is aimed at discovering petroleum in a separate geological feature or structure in which petroleum has not been previously discovered.

³⁰ *Op. cit.*, 83

³¹ See section 178 (7) PIB

³² See section 178 (8) of the PIB

³³ *Ibid* section 178 (10)

After the completion of an appraisal programme, the licensee shall declare a commercial oil discovery, a significant gas discovery or inconsequential discovery.³⁴ Where the licensee declares a significant gas discovery, he shall be entitled to retain the area or areas he made the significant gas discovery in for a period of ten years.³⁵

Within the ten years retention period, when opportunity to sell the gas materializes, the Inspectorate shall invite the licensee to make a declaration of commercial gas discovery and to present a development plan with a commitment to execute the development plan.³⁶ If the licensee fails to make a declaration of commercial discovery within one year of his invitation to do so by the Inspectorate, his petroleum prospecting licence shall be revoked.³⁷ Where the licensee declares to have made inconsequential discovery, the Inspectorate may require the relinquishment of the parcels that cover the extent of the inconsequential discovery.³⁸

Given the tendency of people to be fraudulent, the Upstream Petroleum Inspectorate must be able to verify any declaration of significant gas discovery by a licensee. If the Inspectorate does not do so, a licensee who does not want to relinquish any part of his acreage can declare significant gas discovery over the whole acreage or a substantial part of it thereby entitling himself to retention of the whole acreage or a substantial part of it. Be this as it may, consideration of payment of rent for the whole or substantial part of the acreage may be a disincentive for a licensee behaving this way.

Where the licensee declares a commercial discovery, he shall submit a field development plan to the Inspectorate as well as a commitment to carry out the development plan in a manner acceptable to the Inspectorate.³⁹ The Inspectorate shall only approve the development plan if:

- a. It meets the technical standards required for such works;
- b. Results in the maximum recovery of oil, natural gas, condensates or bitumen;
- c. Meets adequate health safety and environmental standards;
- d. Includes an approved Nigerian content plan pursuant to Nigerian law on Nigerian content development;
- e. Includes an approved environmental management plan and an acceptable decommissioning and abandonment plan;
- f. Provides for the elimination of routine gas flaring.⁴⁰

Failure by a licensee to submit a development plan and work commitment, his licence may be revoked.⁴¹ The licence may still be revoked even if the licensee who

³⁴ Ibid section 178 (11)

³⁵ Ibid section 178 (12)

³⁶ Ibid section 178 (14)

³⁷ Ibid section 178 (15)

³⁸ Ibid section 178 (17)

³⁹ Section 179 (1) PIB

⁴⁰ Ibid section 179 (3)

failed to submit a development plan and work commitment were to develop the oil field according to the specifications of the Inspectorate since the law does not excuse his failure on such consideration.

Unitization of Oil Blocs

Under the old law, joint development schemes provided for by the Petroleum Drilling and Production Regulations are what come close to unitization of oil blocs under the PIB. In this regard, Reg. 48 of the Petroleum Drilling and Production Regulations providing for joint development schemes provides thus:

- (1) If at any time during the term of a licence or lease-
 - (a) the Minister, after consultation with the licensee or lessee (referred to in this regulation as "the grantee"), is satisfied that the relevant area or any part thereof forms part of a single geological petroleum reservoir (referred to in this regulation as "the oilfield") in respect of other parts of which any other licence or lease is in force, and that the field is susceptible to being developed as a unit in accordance with good oilfield practice; and
 - (b) the Minister considers that it is in the interest of Nigeria, the grantee and the licensees or lessees of any other part of the oilfield (those licensees or lessees being referred to in this regulation as "the other parties") in order to secure the maximum ultimate recovery of petroleum that the oilfield should be worked and developed as a unit in cooperation by all those who hold a lease or licence over any part thereof, paragraphs (2), (3) and (4) of this regulation shall apply.
- (2) The grantee shall, upon being so required by the Minister by a notice in writing specifying the other parties, co-operate with the other parties in the preparation of a scheme (referred to in this regulation as "the development scheme") for the working and development of the oilfield as a unit by the grantee and the other parties in co-operation, and shall jointly with the other parties submit the development scheme for the approval of the Minister.
- (3) The said notice shall contain a description, by reference to a map, of the area in respect of which the Minister requires the development scheme to be submitted for his approval, and shall state the period within which the development scheme is required to be so submitted.
- (4) If the development scheme is not submitted to the Minister within the period limited in that behalf by the said notice, or if the development scheme on being submitted pursuant to paragraph (3) of this regulation is not approved by the Minister, the Minister shall himself prepare the development scheme in a manner which in his opinion is fair and equitable to the grantee and the other parties.

⁴¹ Ibid section 179 (4)

- (5) When the development scheme has been:
- (a) submitted under paragraph (3) or this regulation and duly approved; or
 - (b) prepared by the Minister under paragraph (4) of this regulation, the grantee and the other parties shall perform and observe all the terms and conditions thereof.

The law does not say at whose expense, the Minister may prepare the development scheme. It is logical to submit that it will be at the expense of the affected licensee or lessee.

The PIB providing for unitization of oil blocs provides that where petroleum discovery in a licensed area extends beyond the boundaries of the licensed area, the Inspectorate may require that petroleum operations related to such discovery be carried out on the basis of a unitized development with the licences or leases into which such discovery extends.⁴² The unitized development may include non-straddling reservoirs so as to optimize the development.⁴³ Where some or all of the area into which such discovery extends is not under any licence or lease, the Inspectorate shall promptly offer the affected area for bids.⁴⁴ The licensees or lessees of the area or areas into which such discovery extends shall make a proposal to the Inspectorate for a joint development plan of the discovery within two years after the request by the Inspectorate.⁴⁵ If the proposal is not approved by the Inspectorate or the parties do not present a unitization proposal, the Inspectorate may appoint an expert to prepare the unitization proposal at the expense of the licensees or lessees as the case may be and such plan would be binding on all affected licensees or lessees.⁴⁶ In the event that a unitized field continues in production after one or more leases expire, the Inspectorate shall grant extension of such leases to allow the unit reach the end of production.⁴⁷

The provision of the Petroleum Industry Bill on Unitization of Reservoirs and Reg. 48 of the Petroleum Drilling and Production Regulations on Joint Development Schemes reduce the need of drilling different oil wells thereby saving cost and avoiding environmental degradation. Good as the provisions are, they raise a number of issues. How is the cost of drilling and producing the oil be shared by the different licensees or lessees? It is logical to submit it will be shared equally. How is the oil produced by the unitized reservoirs be shared between the different licensees or lessees? It is submitted that it would be shared according to the quantity of oil that comes from each reservoir. The problem here is knowing which oil came from which reservoir. It seems the services of experts may be needed here to sort things out.

⁴² Ibid 180 (1)

⁴³ Ibid section 180 (2)

⁴⁴ Ibid section 180 (3)

⁴⁵ Ibid section 180 (4)

⁴⁶ Ibid. section 180 (5)

⁴⁷ Ibid section 180 (6)

Right to a Mining Lease

Paragraph 4 of the first schedule to the 1969 Petroleum Act provides that an oil exploration licence shall not confer any right to the grant of an oil prospecting licence or an oil mining lease. Given that in practice only an oil prospecting licence is granted, oil exploration licence in this section must be taken to refer to an oil prospecting licence. What is more, it is usually oil prospecting that leads to oil finds in commercial quantities. If the reasoning here holds, is it the intendment of the provision under reference that an oil exploration licensee whose operations has discovered a prospect will have to bid for an oil mining lease with other bidders for the granting of a mining lease over the acreage he had laboured to find oil in commercial quantities? Hardly can this be the position of the law. Where an oil exploration licensee has made commercial finding, has complied with conditions in his licence or imposed on him by law and his development plan has been approved by UPI, it will be unfair to throw open his finding to public bid. It is only where he had not made such finding that his acreage may be open to public bids. In that case, the bidding will not be for an oil mining lease (oil having not been found), but for an oil prospecting licence.

The 2012 PIB provides that a petroleum mining lease shall be granted for parcels of each commercial discovery of crude oil or natural gas or both, or bitumen to the licensee of a petroleum prospecting licence who has satisfied all the conditions imposed on the licence or imposed by the Act on the licensee, and has received approval for his development plan from the Inspectorate.⁴⁸ The implication of this provision of the PIB is that a lease may not be granted to an oil prospecting licensee who has made commercial discovery of oil or gas if he has not satisfied all the conditions in his licence or those impose on him by the Act or if his development plan has not been approved. The further implication of a mining lease being not granted to him over the area he made the discovery is that the lease may be granted to another person, the investment of the licensee thereby going down the drain. Only in rare cases should the Inspectorate do this.

The new Act also provides that a petroleum mining lease may be granted where a prospective lease area contains a discovery of crude oil or natural gas the Inspectorate considers is commercial, or where a mining lease over a petroleum field or fields with suspended wells or continuing commercial production has been revoked or has expired, or over a bitumen deposit.⁴⁹ The grant of a petroleum mining lease in any of these three situations may not necessarily be to the licensee that prospected and found the petroleum or gas deposits, but to anyone. As a matter of fact, it is unlikely to be to such licensee giving the wording of the provision.

A petroleum prospecting licensee that has made two or more oil or gas discoveries within his prospecting area may apply for a single mining lease over his

⁴⁸ Ibid section 181 (1)

⁴⁹ Ibid section 181 (2)

discoveries or for a mining lease over each discovery and the Minister may oblige him.⁵⁰ Despite the fact that such leases are separate, the Inspectorate may treat them as a single lease.⁵¹ By granting several leases, the lessee acquires what may be termed a stock of leases. It is submitted that it is neater and tidier to grant one lease to a lessee over oil or gas discoveries he has made instead of granting several leases over several oil and gas discoveries while treating them as one. The case made here is more pressing if the oil or gas discoveries were made in one oil bloc. If the Inspectorate finds it difficult for administrative reasons to grant one lease over several oil and gas discoveries, it should grant several leases over the oil and gas discoveries and treat them as a stock of licences or leases belonging to the licensee or lessee. The latter submission makes for easy taxation, payment of royalty and other fees the Inspectorate exerts on licences and leases.

A petroleum mining lessee has the exclusive right to carry out petroleum operations in the leased area.⁵² A petroleum mining lease will only be granted on the basis of a firm commitment to:

- a. Develop and produce the bitumen deposit, crude oil, gas or condensate in the lease area in accordance with the approved development plan;
- b. Restart or continue petroleum production.⁵³ This is in the case of a mining lease being granted over a revoked or expired lease or even in the case of a renewed lease.

During the term of the lease, the Inspectorate shall:

- a. Verify the implementation of work commitments and compliance with approved field development plan;
- b. Monitor the capital and operating cost; and
- c. Ensure that upstream petroleum operations at all times are carried out at the required standards.⁵⁴

Life Span of a Lease

A petroleum mining lease shall have a life span of twenty years.⁵⁵ However where a petroleum mining lease arises from a petroleum prospecting licence where a commercial discovery has been made such licensee would be allowed to use his initial renewal and appraisal period such that:

- a. The overall period shall run for twenty-seven years⁵⁶ for onshore and shallow water areas;

⁵⁰ Ibid section 181 (3 - 7)

⁵¹ Ibid

⁵² Ibid section 182 (1)

⁵³ Ibid section 182 (3)

⁵⁴ Ibid section 182 (4)

⁵⁵ See section 184 (1)

⁵⁶ The additional seven years are from the renewal and appraisal period

- b. The overall period shall run for thirty years⁵⁷ for deep waters and frontier acreages;
- c. Where a petroleum mining lease is to be granted for a petroleum prospecting licence that is yet to expire, the term of the lease would be twenty years⁵⁸ plus the unexpired term of the prospecting licence.⁵⁹

Where a petroleum mining lease is not in commercial production within the development period, i.e. five years for onshore and shallow waters leases and seven years for deep waters' and frontier acreages leases from the granting of the petroleum mining lease, such lease may be revoked at the end of the development period.⁶⁰ The acreage of the revoked lease shall be vested in the government and may be subject to a new grant.⁶¹

Where a lease continues to be in commercial production the lease may be renewed for a further term of not more than ten years, and upon the termination of such renewal, the area shall be relinquished and may be subject to a new grant.⁶²

This provision aims at making oil blocs go round. After a renewal, a lessee would have more than recovered his investment in an oil bloc and should part with it for others to also invest and make any profit they can. Be this as it may, a greedy and spiteful lessee seeing his renewal period nearing finishing will push production of crude oil into overdrive to exhaust the field thereby leaving little if any oil for subsequent lessees.

The divestment of their investments in onshore acreages by international oil corporations like Shell, Mobil, Total and Chevron is in part due to the expiration of their leases in such acreages. In the 1969 Petroleum Act as in the Petroleum Industry Bill, oil leases suffer life spans.

When a lease in production stops production for a period of 180 days than for reasons of force majeure, repairs, maintenance, upgrading of facilities, new construction of facilities or other causes as presented to and endorse by the Inspectorate, the lease may be revoked.⁶³ Where a lessee intends to suspend production for more than 180 days, and intends to recommence production at a later day, he shall submit to the Inspectorate a specific plan and commitment to restart production.⁶⁴

Before investing in an oil mining lease, it is important to know the remaining life span of the lease. Without finding out what is the remaining life span of the lease, an

⁵⁷ The additional ten years are from the renewal and appraisal period

⁵⁸ Whatever is the unexpired term would be added to the twenty years.

⁵⁹ Ibid section 184 (1)

⁶⁰ Ibid section 184 (2)

⁶¹ Ibid

⁶² Ibid 184 (3)

⁶³ Ibid section 184 (4)

⁶⁴ Ibid section 184 (5)

investor can invest in a lease about to expire. If this happens, it means the investor may not be able to recoup his investment.

Usually, as a lease comes close to expiration, it loses its investment attraction. To gain investment prospects, the lease can be renewed ahead of its expiration.

Renewal of Lease

The first schedule to the 1969 Petroleum Act provides in paragraph 13 (1) that the lessee of an oil mining lease shall be entitled to apply in writing to the Minister, not less than twelve months before the expiration of the lease, for a renewal of the lease either in respect of the whole of the leased area or any particular part thereof; and the renewal shall be granted if the lessee has paid all rent and royalties due and has otherwise performed all his obligations under the lease.

Providing in the same vein, the PIB provides that **not** less than twelve months before the expiration of a petroleum mining lease, the lessee may apply in writing to the Minister for renewal of the lease either in respect of the whole leased area or any part thereof and the renewal may be granted if the lessee has paid fees, rents and royalties and has performed all his obligations under the lease.⁶⁵ The terms and conditions that shall apply to the renewal shall be the prevailing conditions for new petroleum mining leases at the time of renewal and the lessee shall pay a renewal bonus of an amount specified in the renewed lease.⁶⁶ By this provision, the terms of being granted renewal of a lease are by and large the same with those of being granted a fresh lease. So if the terms the old lease was granted have changed under a new law, it is the terms in the new law the lessee will have to meet before the grant of the renewal.

It is worth noting that not only is the lessee entitled to apply for the grant of a new lease before the expiration of the old lease, he is entitled to renewal of his lease before it expires. It is also worth noting that as a lease gets close to expiration, the operator begins to wind down his operation. In prolific oilfields like Bonga, to avoid the slowing down of production because of the impending expiration of a lease, it is good to renew the lease before it expires to sustain the tempo of operations. Not only will such advance renewal sustain the momentum of production activities, it will attract more investment in the affected oilfield if such investment is required.

Relinquishment

Paragraph 12 (1) of the first schedule to the 1969 Petroleum Act provides that ten years after the grant of an oil mining lease, one half of the area of the lease shall be relinquished. Paragraph 20 of the first schedule went on to provide that the shape and

⁶⁵ Ibid section 185 (1)

⁶⁶ Ibid section 185 (2)

size of the area to be retained and of the area to be relinquished shall be approved by the Minister.⁶⁷

The PIB providing in the same vein provides that every Petroleum Prospecting License, which is larger than ten parcels shall provide for the obligation to relinquish a number of parcels equal to at least fifty per cent of the original licence area upon the expiration of the initial exploration period.⁶⁸

It is worth noting that here the statute does not provide for relinquishment, but provides that the a Petroleum Prospecting License shall provide for obligation to relinquish a number of parcels equal to at least fifty per cent of the original licence area upon the expiration of the initial exploration period. The implication of the statute leaving this provision to a petroleum prospecting licence is that if such licence does not contain such a provision then there will be no relinquishment. However, since the statute said 'every licence shall provide ...' if a licence does not so provide, it might be rendered invalid because of that singular omission.

The Petroleum Industry Bill went on to provide that any acreage included in a Petroleum Mining Lease, appraisal and significant gas retention areas may be retained by the licensee and he would not be required to relinquish such acreages.⁶⁹ This means that only areas where oil has not been found through prospecting are to be relinquished while the licensee moves into a mining lease with those areas he has made discovery of oil in commercial quantity. This accords with sense and justice.

Upon expiration of the renewal period for a Petroleum Prospecting License, the licensee shall relinquish all parcels, which are not part of petroleum mining leases, appraisal areas, or significant gas discovery retention areas.⁷⁰ In practice, the point this statutory relinquishment takes place is the point when an oil prospecting licensee applies for conversion of his Oil Prospecting License to an Oil Mining Lease. As provided by law, relinquishment will be of part of the acreage the oil prospecting licensee has not found oil in commercial quantity. Since the portions of the acreage he is likely to find oil are likely not to be in one place but scattered through the acreage, the portion he would relinquish would also not be in one place but scattered through the acreage.

By this provision, the licensee may be relinquishing more than fifty per cent or even the whole licensed area if he has not made much oil discoveries. Having failed to make discoveries, keeping the prospecting area neither serve the ends of the licensee nor that of the Nigerian government. It does not serve the end of licensee because he

⁶⁷ Relinquishment provisions under Nigerian petroleum law may be compared with relinquishment provisions under Zimbabwean land law. As petroleum licensees and oil mining lessees are required by Nigerian petroleum law to relinquish portions of their licensed or leased oilfields which they had not found oil or had not even explored, white landowners in Zimbabwe were required by Zimbabwean land law to relinquish under-occupied land to the government for redistribution.

⁶⁸ Ibid section 185

⁶⁹ Ibid. section 186 (1)

⁷⁰ Ibid section 186 (2)

has to be paying concession rentals with no returns. It does not serve the end of government because oil production from which government will make money is not forthcoming.

Ten years after granting of a lease to produce crude oil, natural gas, condensate or bitumen, the lessee may retain all parcels that are in commercial production or for which firm production commitments have been made and shall relinquish all other parcels.⁷¹ To achieve this relinquishment, the lease shall not contain any priority rights, optional rights or negotiation rights for the licensee or lessee with respect to acreage to be relinquished.⁷² The relinquished acreage shall vest in the government and may be the subject of lease grant to another lessee.⁷³ Any rent paid in respect of the area to be relinquished shall not be refundable.⁷⁴

Apart from the above statutory relinquishments, there are contractual relinquishment provisions. Various contracts for the production of petroleum between NNPC with international oil corporations contain relinquishment clauses sometimes referred to as *Exclusion of Areas*. For instance, an NNPC agreement with an IOC may provide under an Exclusion clause that: *Not later than ten years from the effective date, fifty per cent of the contract area shall be excluded and any excluded area shall revert to the government.* The agreement may go on to provide that: *The fifty per cent of the contract area to be excluded shall be agreed to by both parties and shall not include any part of the contract area petroleum has been discovered in commercial quantities.* What this means is that if oil has been found in more than fifty per cent of the contract area, which is unlikely, then less than fifty per cent of the contract area will be relinquished.

The contractual stipulations for relinquishment are fairly clear and simple. Not more than ten years after the effective date of the contract, fifty per cent of the contract area shall be relinquished to the Nigerian government. These fifty per cent areas shall not include areas oil has been discovered in commercial quantity. What however is not clear by this provision is the meaning of *contract area*. Is *contract area* in respect of an OPL or in respect of an OML or both? If it is in respect of OPL, the ten years relinquishment time stipulated by the contract will come much earlier than that stipulated by statute. If on the other hand it is *contract area* in respect of OML, the ten years relinquishment time stipulated by the contract might come later than that stipulated by statute. If it is *contract area* in respect of both OPL and OML, then either of the two situations mentioned above might hold sway. The question here is if the contractual relinquishment period conflicts with the statutory, which prevails? It is submitted, the statutory period prevails.

⁷¹ Ibid section 186 (5)

⁷² Ibid section 186 (6)

⁷³ Ibid section 186 (7)

⁷⁴ Ibid section 186 (8)

However relinquished, the relinquished acreage goes back to the bidding basket. However, because of the irregular character of relinquished acreages, DPR will have to pull them together, employ surveyors and geomaticians to work out new oil blocs that are near regular in shape before calling for new bids over the relinquished blocs.

With the enactment of the Marginal Fields Decree, relinquished acreages became a ready pool marginal field operators can hope for allocation of oil blocs.⁷⁵ A faithful implementation of the law on relinquishment no doubt helps the attainment of the objectives of the Marginal Fields Decree. Such faithful implementation will result in the increase of marginal fields availability, which can be taken over by indigenous oil companies thereby boosting local participation in the oil and gas industry. Since relinquishment is by operation of law, it takes place once a prospecting licensee with a large acreage applies for conversion of his OPL to OML. So there is no fear of the law being not enforced.

Surrender of License or Lease

Paragraph 19 (1) of the first schedule to the 1969 Petroleum Act provides that the holder of an oil prospecting licence or oil mining lease shall be entitled at any time on giving three months' notice in writing to the Minister to surrender the licence or lease in respect of any particular part of the licensed or leased area.

Under the PIB a licensee or lessee is entitled at any time to surrender part or the whole of the licensed or leased area provided he gives three months notice in writing to the Inspectorate prior to the surrender and provided he has complied with all his obligations under the licence or lease.⁷⁶ The notice required to be given to the Inspectorate by this provision is perhaps to enable it prepare its mind on reallocating the surrendered oil bloc to another oil company. The law provides that no rent paid prior to the surrender shall be refundable.⁷⁷

No rent paid shall be refundable, but the surrender shall otherwise be without prejudice to any obligation or liability imposed by or incurred under the licence or lease before the effective date of surrender.⁷⁸ The implication of this provision is that while the government will not refund any rent paid by the licensee or lessee before surrendering his licence or lease, the licensee or lessee is bound to pay rents due before the effective date of his surrendering the licence or lease.

Right of way

The holder of an oil prospecting licence or oil mining lease shall have a general right to enter and remain on the licensed or leased lands and do such things as are authorised by the licence or lease.⁷⁹ Both the licensee or lessee and the Upstream

⁷⁵ Ibid section 193 (6)

⁷⁶ Ibid section 187 (1)

⁷⁷ Ibid section 187 (2S)

⁷⁸ See paragraph 23 of the first schedule to the 1969 Petroleum Act.

⁷⁹ Ibid 36

Petroleum Inspectorate are entitled to right of way in the licensed or leased area. The right of way is in respect of the laying, operation and maintenance of pipelines, telephone lines and power lines.⁸⁰ A licensee or lessee may not object to the grant of the right of way over the licensed or leased area by the Inspectorate unless the right of way will affect the health and safety of his personnel or the environment of his activities.⁸¹

Although the Bill does not provide so, it is reasonable to submit that before the Inspectorate can grant a right of way over a licensed or leased area, propriety and fair dealing require that it informs the licensee or lessee and gets his opinion on the intention of the Inspectorate. The law also does not specify the type of right of way the Inspectorate can grant over a licensed or leased area and to who. Is it merely a right of thoroughfare as in someone walking through the licensed or leased area or a right to construct a road through the licensed or leased area? While the former will be reasonable, the latter would not.

License and Lease Award Process

The Petroleum Industry Bill provides in section 190 (1) that the grant of a petroleum prospecting licence or a petroleum mining lease not derived from a petroleum exploration licence shall be by open, transparent and competitive bidding process conducted by the Inspectorate.⁸² The winning bidder shall be determined on the basis of the following parameters:

- i. Signature bonus
- ii. Royalty percentage
- iii. Work commitment in terms of the number of wells to be drilled to a specified minimum during the initial exploration period
- iv. Work units.⁸³

It is submitted that for the Inspectorate to take maximum advantage of the competitiveness of the bidding, the grant of a petroleum prospecting licence or a petroleum mining lease should be to the bidder that meet all the above enumerated requirements.

Except the grant by the President of Nigeria under section 191, there shall be no grants of discretionary award.⁸⁴ Given the experience of Nigeria with discretionary

⁸⁰ Ibid section 189 (1)

⁸¹ Ibid section 189 (2)

⁸² It is worth noting that the grant of a petroleum prospecting licence and a petroleum mining lease founded on a petroleum exploration licence would not be open, transparent and competitive when the grant is to the holder of the oil exploration licensee. It is only when the grant is to some other entity that the grant has to be open, transparent and competitive. Be this as it may, in the old law only oil prospecting licences are granted in practice. Oil exploration licences though provided for by the old law are not granted in practice except in the sense discussed under oil exploration, oil prospecting and oil mining in this text. This being the case, unless in the new law oil exploration licences would be granted as well as oil prospecting licences, the condition generated by this provision makes no sense.

⁸³ Ibid section 190 (2)

awards, even the discretionary award by the Nigerian President provided for by section 191 of the PIB is to be lamented. Relying on such provision, unpatriotic and corrupt Nigerian presidents award prolific oilfields to their cronies and friends with no visible benefit to the nation. The dispute between the Nigerian federal government with Famfa oil over the prodigious oilfield discretionarily awarded to the oil company by a Nigerian former President should have provided enough disincentive for the law makers to exclude such a provision from the new law.

Under the law, the President of Nigeria enjoys certain prerogatives. For instance, he enjoys the prerogative of giving state pardon to a convicted person. These prerogatives are relics of Nigeria's colonial heritage. Under the British hybrid democratic cum monarchical system, the King or Queen of England is the fountain of justice on whose behalf English courts administered justice. Put differently and perhaps more lucidly, English courts are mere agents of the King or Queen. What the agent can do, the principal has more right to do. Under the English system, the King or Queen may not only grant pardon to a convict, but is above committing crime himself or herself. *The Crown can do no wrong* is a common adage of English jurisprudence. Accordingly, the King or Queen enjoys immunity from prosecution from all forms of crime. It is the prerogatives and immunity of the English Crown that the Nigerian President enjoys.

It is submitted that while vesting prerogatives of mercy and immunity in the Crown may work well for the British system because the Crown is moved into action by honour, vesting such privileges in a Nigerian President moved by political considerations and patronage is not good for the country.

Further providing for licence and lease award process, the Petroleum Industry Bill provides that the Minister shall direct the Inspectorate to call for bids in accordance with a process that shall be made available to the general public through publications on the websites of the Inspectorate and in at least two newspapers with international coverage and two newspapers with national coverage.⁸⁵ After the Minister has directed for call for bids, the Inspectorate shall propose the technical, legal, economic and financial requirements as well as the minimum experience and capacity necessary for prospective licensees or lessees. All these shall be contained in guidelines prepared by the Inspectorate and approved by the Minister. In addition to bid parameters outlined above, licensees and lessees shall be chosen in accordance with this guidelines.⁸⁶

Section 191 vests in the Nigerian President power to grant a petroleum exploration or prospecting licence or a petroleum mining lease. As earlier deferred from, given the experience of Nigeria of its leaders granting petroleum prospecting licences and petroleum mining leases to their cronies without any competence or

⁸⁴ Ibid section 190 (3)

⁸⁵ Ibid section 190 (4)

⁸⁶ Ibid section 190 (5)

experience of prospecting or producing oil from them, this provision should have not made the Act.

Section 192 of the Bill provides that a licence or lease may include the right of the government to a participating interest in the licence or lease and in this case, the Minister may exercise this right to participate in accordance with the terms of the said licence or lease. This provision of the Bill no doubt is informed by the Supreme Court Decision in *NNPC v. Famfa Oil Ltd*⁸⁷

On 5th May 1993 Famfa applied for and was granted an Oil Prospecting License (OPL 216) by the Federal Government of Nigeria. Famfa then entered into Joint Venture agreements with Star Deep Water Petroleum Limited and Petrobras. The Joint Venture expended considerable costs to prospect for oil. On 23rd March 2000 the Nigerian National Petroleum Corporation sought to compulsorily acquire 40% of Famfa's interest in OPL 216, Famfa challenged this at the Federal High Court and obtained an order of the Court declaring the purported acquisition to be illegal, null and void. The Court held that while the government may have a right to participate in oil operations, it could do so only upon the grant of an Oil Mining Lease. Famfa subsequently discovered oil in commercial quantities and applied to convert its OPL to an OML. Its application was granted on 13th December, 2003.

In July 2003, before the grant of the OML to Famfa, the Federal Government promulgated the Deep Water Bloc Allocations to Companies popularly known as *Back-In-Rights Regulations*. The Regulations applied to all deep water blocs issued before the regulations came into force as well as others that may be issued from time to time. It also gave the Federal Government a right to participate in such OMLs by acquiring five-sixths of the allottee's interest in the relevant oil prospecting licence and oil mining lease under such terms and conditions as may be determined, from time to time, by the Federal Government. The Federal Government's right to do this was subject to it reserving such a right in the deepwater bloc allocation.

Barely one month after the grant of the OML to Famfa, the government showed up again. Apparently relying on the earlier Federal High Court judgment and the Back-In-Rights Regulations 2003. It wrote to Famfa on 27th January 2005 and again on 18th April 2005 seeking to compulsorily acquire five-sixths of Famfa's equity interest and a 50% participating interest in the bloc. Famfa instituted action in the Federal High Court seeking declarations that the actions of the government in respect of the OML did not follow the law and were illegal null and void. The Federal High Court disagreed with Famfa and dismissed its case. Famfa appealed to the Court of Appeal which allowed the appeal. The Federal Government then appealed to the Supreme Court contending that the government had a right to participate in the OML.

⁸⁷ (2009) 12 NWLR (pt. 1156) p. 462

The Supreme Court formulated one issue for determination: whether the acquisition of 50% interest in OML 127 by the Federal Government of Nigeria was done in compliance with the provisions of the law and the constitution. The Court held that where the government reserves a right to participate in an oil and gas venture, it is like any other right and is by no means absolute but subject to limitations imposed by law. Specifically the government's right is burdened by its duty to follow the relevant law and the constitution. Paragraph 35 of the First Schedule to the Petroleum Act provides that the Minister may impose terms on a licence, including terms and conditions as to participation in a licence by the Federal Government on terms and conditions to be negotiated between the Minister and the applicant for the lease. The government therefore has a duty to negotiate with an applicant for a licence or a lease at the time of consideration of the application of the licence or lease. Failure of the government to negotiate and its unilateral attempt to participate were therefore procedurally flawed and contrary to the provisions of the law. The Court further held that by virtue of section 44 of the 1999 Nigerian Constitution, no movable property or interest in movable property shall be taken possession of compulsorily and no right over or interest in any such property shall be acquired except in a manner prescribed by law.

The Court held that the attempt by the Minister to participate in OML 127 without complying with the provisions of Paragraph 35 of the First Schedule to the Petroleum Act offended the provisions of section 44 of the Constitution and therefore null and void.⁸⁸

Assignment and Renewal of Oil Prospecting Licenses and Oil Mining Leases

After receiving the grant of oil exploration, oil prospecting licence or oil mining lease, the holder of the licence or lease may apply to assign either the whole licence or lease to another person or an interest in the licence or lease.

Providing for assignment of an oil prospecting licence or oil mining lease, paragraph 14 of the first schedule to the 1969 Petroleum Act provides that without the

⁸⁸ The decision of the Supreme Court in this case has been hailed in certain quarters as a victory for property rights advocates and procedural due process. The Petroleum Act is a principal law. Where it prescribes a particular method of exercising statutory power, the procedure so laid down must be followed without any deviation whatsoever. The Supreme Court decision in this case further entrenches a line of judicial authorities that strictly limit the powers of the government in petroleum dealings to its granted powers and all such powers must be exercised in line with procedural due process of law. This case no doubt establishes the application of the rule of law in business – a development that will no doubt boost investors confidence. The Supreme Court having decided the way it did, the National Assembly has now reflected the Court's decision in the PIB thereby further boosting investor's confidence.

prior consent of the Minister of Petroleum, the holder of an oil prospecting licence or an oil mining lease shall not assign his licence or lease, or any right, power or interest therein or thereunder.

Paragraph 15 prescribes the fee to be paid on an application for an assignment under paragraph 14 of the Schedule. It provides that the Minister's consent for assignment may be given on payment of such fee or premium, or both, and upon terms, as he may decide; provided that the Minister may waive payment of that other fee or premium, or both, if he is satisfied that the assignment is to be made to a company in a group of which the assignor is a member, and is to be made for the purpose of re-organisation in order to achieve greater efficiency and to acquire resources for more effective petroleum operations.

Paragraph 16 provides that the Minister shall not give his consent to an assignment unless he is satisfied that:

- (a) the proposed assignee is of good reputation, or is a member of a group of companies of good reputation, or is owned by a company or companies of good reputation;
- (b) there is likely to be available to the proposed assignee (from his own resources or through other companies in the group of which he is a member, or otherwise) sufficient technical knowledge and experience and sufficient financial resources to enable him to effectually carry out a programme satisfactory to the Minister in respect of operations under the licence or lease which is to be assigned; and
- (c) the proposed assignee is in all other respects acceptable to the Federal Government.

Reg. 4 (a) of the Petroleum Drilling and Production Regulations in its turn provides that an application for the assignment of an oil exploration, oil prospecting licence or oil mining lease or of an interest in the same shall be made to the Minister in writing and accompanied by the prescribed fee of ₦500,000⁸⁹ and the applicant shall furnish in respect of the assignee all such information as is required to be furnished in the case of an applicant for a new licence or lease.

By the provision of Reg. 4 (b) of the Petroleum Drilling and Production Regulations, it seems that as the holder of an oil exploration, oil prospecting licence or oil mining lease can make application for assignment of his licence or lease or a particular interest in either to another person, a non-holder of a licence or lease can make an application to the Minister for assignment or takeover of the licence or lease of the holder of these instruments or interest in them. If a non-holder of a licence or lease makes an application for assignment or takeover of a licence or lease to the original licensee or lessee, he has to meet the requirements the original licensee or lessee met before the licence or lease was granted to him.⁹⁰ Be this as it may, it seems

⁸⁹ See Reg. 59 of the Petroleum Drilling and Production Regulations.

⁹⁰ See Reg. 4 (b) of the Oil Drilling and Mining Regulations

before making such an application, a non-holder of a licence or lease must have conferred with the holder for the assignment or takeover of the licence or lease of the holder of either of these instruments. Failing to do this would make the application of the non-holder of the instruments hostile and unreasonable and the Minister may decline to approve the application for assignment on this score.

A relevant question that may be asked in respect of Reg. 4 of the Oil Drilling and Production Regulations dealing with application for assignment may be what the term *assignment* in the Regulation means. In law assignment generally means the giving over for value or without value of one's property or interest in a property to another person.⁹¹ By this popular legal definition of assignment, if a person makes a successful assignment of his property or interest in a property to another person, he cedes the property or interest to the ownership or enjoyment of the assignee. By this popular meaning of assignment, assignment of a licence or lease, particularly for value, makes sense. Both the assignor and assignee have value for the assignment. Not so assignment of an interest in a licence or lease. For instance, what is the value an assignee of an interest in an oil exploration licence has by the assignor assigning a particular exploration activity to him, unless he is paid by the assignor to do so? If this be the case, assignment in this situation is not assignment in the general or popular sense, but assignment in the particular and peculiar sense of procuring a service.

All grants and renewals of oil prospecting licence or oil mining leases, assignments and surrenders of oil prospecting licences or mining leases shall be published in the Federal Gazette with the names of licensees, lessees or assignees.⁹² It is curious why this provision of the Petroleum Drilling and Production Regulations does not include relinquishments particularly when it has mentioned surrenders. Relinquishment being compulsory is more frequent than surrenders which are voluntary. Therefore, relinquishments should be published so that interested persons are thereby notified.

Assignments, Mergers and Acquisitions

Where a licence, lease or production sharing or service contract is taken over by another company, either by acquisition or exchange of shares, including a change of control of a parent company outside Nigeria, it shall be deemed to be and treated as an assignment within Nigeria and shall be subject to the relevant provisions of the Act.⁹³ A licensee, lessee, or service contractor shall not assign his licence, lease, or contract or any part thereof, or any right, power or interest therein without the prior written consent of the Minister.⁹⁴ The Minister may consent to the assignment if the proposed assignee is able to show to the satisfaction of the Minister that:

⁹¹ See Black's Law Dictionary.

⁹² See Re. 5 of the Petroleum Drilling and Production Regulations

⁹³ See section 194 (1) of the PIB

⁹⁴ Ibid section 194 (2)

- a. The proposed assignee is of good reputation;
- b. The proposed assignee has sufficient technical knowledge, experience or financial resources to enable it successfully carry out the responsibilities under the licence, lease or contract which is to be assigned;
- c. Where the proposed assignee is to serve as operator, such assignee has proven operating experience or is supported by a competent operator under a technical service agreement with respect to service to be carried out under the licence, lease or contract which is to be assigned.⁹⁵ Fees prescribed by the Minister for assignment in Regulations shall be payable.⁹⁶ The requirement for payment of fees may be waived if the assignor and assignees are members of a group and the assignment is made pursuant to a reorganization of the group in order to achieve greater efficiency and acquire more resources for more effective petroleum operations.⁹⁷

Grounds for Revocation of License or Lease

Oil prospecting licences and oil mining leases have life spans. Before the expiration of their life spans, they can be revoked for good reason. Often the revocation is on the breach of a fundamental term in the licence or lease by the licensee or lessee.

Paragraph 24 (1) of the first schedule to 1969 Petroleum Act provides that the Minister may revoke any oil prospecting licence or oil mining lease if the licensee or lessee becomes controlled directly or indirectly by a citizen of, or subject of, or a company incorporated in, any country which is:

- (a) a country other than the licensee's or lessee's country of origin; and
- (b) a country the laws of which do not permit citizens of Nigeria or Nigerian companies⁹⁸ to acquire, hold and operate petroleum concessions on conditions which in the opinion of the Minister are reasonably comparable with the conditions upon which such concessions are granted to subjects of that country.

Paragraph 25 (1) provides that the Minister may revoke any oil prospecting licence or oil mining lease if in his opinion the licensee or lessee:

- (a) is not conducting operations continuously;
- (ii) is not conducting operations in a vigorous and businesslike manner in accordance with the basic work programme approved for the licensee or lessee; and
- (iii) is not conducting operations in accordance with good oil field practice; or

⁹⁵ Ibid section 194 (4)

⁹⁶ Ibid section 194 (5)

⁹⁷ Ibid section 194 (6)

⁹⁸ The schedule defines *Nigerian company* as a company incorporated in Nigeria or a company controlled directly or indirectly by citizens of Nigeria.

- (b) has failed to comply with any provision of the Act or any regulation or direction given thereunder or is not fulfilling his obligations under the special conditions of his licence or lease; or
- (c) fails to pay his due rent or royalties within the period specified by the Act, whether or not they have been demanded by the Minister; or
- (d) has failed to furnish such reports on his operations as the Minister may lawfully require.

Paragraph 26 provides that the Minister shall inform the licensee or lessee of the grounds on which the revocation is contemplated and shall invite the licensee or lessee to make any explanation if he so desires. If the Minister is satisfied with the explanation, he may invite the licensee or lessee to rectify the matter complained of within a specified period.⁹⁹ If the Minister is however not satisfied, he shall revoke the licence or lease.¹⁰⁰ A notice sent to the last-known address of the licensee or lessee or his legal representative in Nigeria and published in the Federal *Gazette* shall, for all purposes, be sufficient notice to him of the revocation of the licence or lease.¹⁰¹ The revocation shall be without prejudice to any liabilities which the licensee or lessee may have incurred, or to any claim against him which may have accrued to the federal government.¹⁰²

In its turn, the Petroleum Industry Bill provides that the Minister on the advice of the Inspectorate may revoke a licence or lease if the licensee or lessee:

- a. Is controlled directly or indirectly by a person who is a citizen of a country whose law does not permit citizens of Nigeria or Nigerian companies to acquire and operate petroleum concessions on conditions reasonably comparable to Nigerian conditions;
- b. In the opinion of the Inspectorate is not conducting operations continuously and in a vigorous and businesslike manner and in accordance with good oil field practice;
- c. Is not fulfilling the conditions of his licence or lease;
- d. Fails to pay fees, rents or royalties as they fall due whether or not they have been demanded by the Inspectorate;
- e. Fails to furnish any report on its operations that are prescribed by the Act or any other law;
- f. Assigns or otherwise transfer his interest in the licence or lease without prior consent of the Minister;
- g. In the opinion of the Inspectorate is not implementing its environmental management plan in accordance with good oil practice;

⁹⁹ See paragraph 27 of the schedule

¹⁰⁰ See paragraph 28

¹⁰¹ See paragraph 29

¹⁰² See paragraph 30

- h. Has obtained or acquired the licence or lease on the basis of false representation or corrupt practices;
- i. Is owned or controlled by a former public servant who obtained the licence or lease through misuse of public office.¹⁰³

Paragraphs f, g, h, and i in the PIB are not in paragraph 25 (a) of the first schedule to the 1969 Petroleum Act. Given the importance of the mentioned paragraphs, they are an improvement on the 1969 Act

The PIB provides that the Minister shall before revoking a licence or lease invite the licensee or lessee to defend himself of the allegations against it, and if the Minister is satisfied with his explanation, the revocation process shall terminate forthwith.¹⁰⁴ If the Minister is not satisfied with the explanation, he may ask the licensee or lessee to rectify the matter complained of.¹⁰⁵ If it is not a matter that the licensee or lessee can rectify, the Minister shall revoke the licence.¹⁰⁶ Revocation shall be without prejudice to any liability the licensee or lessee may be under and the federal government may claim same.¹⁰⁷

Discretion of the Minister of Petroleum to grant a Prospecting License and Oil Mining Lease

The Minister of Petroleum enjoys a discretion to grant or not to grant an application for an oil exploration, oil prospecting or oil mining lease. But like all discretions exercised by public officials, the Minister must not exercise his discretion whimsically, capriciously or perversely. Rather his exercise of discretion should accord with reason and commonsense. What this means is that if an applicant for an oil exploration licence, oil prospecting licence or oil mining lease has met all the requirements listed for the grant of a licence or lease by regulations 1 (2) and 59 of the Petroleum Drilling and Production regulations, the latter should exercise his discretion in favour of the former by granting the application. If on the other hand the applicant fails to satisfy the listed requirements, the Minister should decline to grant the application. The Regulations do not provide for where an applicant aggrieved by the Minister's refusal to grant his application can ventilate his grievances. In the absence of such provision, the applicant may have recourse to the general judicial processes of the land to challenge the Minister's refusal.

All the requirements enumerated by the Regulations must be conjunctively met by the applicant. Short of one requirement, the Minister may not grant the application.

¹⁰³ Ibid section 195 (1)

¹⁰⁴ Ibid section 196 (1)

¹⁰⁵ Ibid section 196 (2)

¹⁰⁶ Ibid section 196 (3)

¹⁰⁷ Ibid section 196 (5)

It is worth noting that the requirements listed by Regulations do not require the applicant to also furnish to the Petroleum Minister an environmental management plan. This is understandable given the age of the Regulations. Made in 1969, the Regulations were made at a time environmental protection was yet to receive official attention in Nigeria.

Be this as it may, the work programme a licensee or lessee is required to submit to the Minister before a licence or lease is granted usually contains provision on environmental management. This provision will take care of the failure of the regulations to stipulate the submission of a separate environmental management plan as a condition for the grant of an oil prospecting licence or an oil mining lease.

The exploration, prospecting or mining lease when granted shall set out the terms on which exploration, prospecting or mining of oil shall be conducted. Usually, the licence or lease will define the area the exploration or prospecting will be carried out, an annual charge or rent, the period or term of the licence and relinquishment/surrenders.

While oil prospecting licence and oil mining lease are renewable on terms not necessarily different from those of the original grant, an oil exploration licence is not renewable. The reason for the non-renewability of an oil exploration licence is that if after the expiration of the exploration term, the licensee has not established a prospect of oil, it is pointless indulging him with another exploration term. Even the renewal of oil prospecting licence or oil mining lease is not automatic. It is usually granted only on evidence of good oil field performance by the licensee or lessee. The drill or drop policy of the government sounds through this provision.

Examination and Export of Samples, Specimens of Rock and Petroleum

The holder of an oil exploration licence may remove for examination an analysis samples and specimens of rock and petroleum found by him in the course of his operations, but should give particulars of such samples and specimens to the Director of Petroleum Resources if the latter so requests.¹⁰⁸ Except in the sense that oil exploration and prospecting are synonymous, it is curious why samples from oil exploration and not from oil prospecting or mining are referred to by these provision when it is the latter activity that are likely to generate such samples. Perhaps in acknowledgement of this fact, a later provision of the Petroleum Drilling and Production Regulations refers to samples from oil exploration, oil prospecting and oil mining.¹⁰⁹

The holder of an oil exploration, oil prospecting licence and an oil mining lease may not export samples or specimens abroad except with the written permission of

¹⁰⁸ See Reg. 6 (1) and (2) of the Petroleum Drilling and Production Regulations

¹⁰⁹ See Reg. 7 of the Petroleum Drilling and Production Regulations

the Director of Petroleum Resources and subject to such conditions as he may prescribe.¹¹⁰ It is not clear in this provision of the Petroleum Drilling and Production Regulation whether the samples referred to by the Regulations in this particular provision are rock or oil samples or both. Except for purposes of analysis, rock samples would not be exported and therefore would not be the samples referred to by the provision. And were such to be the case, their export may not be of interest to the Director of Petroleum Resources except to the extent that he might be moved to be interested in the rock samples and the outcome of their analysis by seismic data considerations. The conclusion this leads to is that the samples referred to by this provision are likely to be oil samples since such samples have monetary value that would interest the Director of Petroleum Resources.

Reg. 51 of the Petroleum Drilling and Production Regulations also provides for samples. It provides that:

- (1) The licensee or lessee shall correctly label and preserve for reference for a period of two years-
 - (a) any characteristic samples which he takes, or is required by the Director of Petroleum Resources to take, of the strata or water encountered in any bore-hole or well; and
 - (b) samples of petroleum or other fluids found in the relevant area.
- (2) The Director of Petroleum Resources and the Director of Geological Survey and their authorized representatives shall have access to the samples at all times, and shall be entitled to require that representative specimens not exceeding one half of any sample be delivered to them and to retain any specimen so delivered.

Rights and Powers of an Oil Exploration Licensee

Having been granted a licence to explore for Petroleum, the licensee enjoys certain rights and powers as a result of the grant. He may with the approval of the Director of Petroleum Resources:

- i. Bring and erect in the relevant area of the licence temporary structures, machinery and other things necessary for exploration operations
- ii. May dismantle and remove the same.¹¹¹

Duties of an Oil Exploration Licensee

An oil exploration licensee has duty to:

- i. commence examining the relevant area by geological and geophysical methods not later than three months after grant of the exploration licence;
- ii. continue the examination during the subsistence of the licence;¹¹²

¹¹⁰ Ibid

¹¹¹ Ibid Reg. 11

¹¹² Ibid Reg. 12

- iii. report to the Director of Petroleum Resources without delay the discovery of any hydrocarbons or other economic mineral in the relevant area;¹¹³
- iv. within two months of the expiration of the exploration licence, forward to the Director of Petroleum Resources a report in triplicates on the work done and the conclusions reached on the relevant area the report being accompanied by all relevant data, maps, plans and sections.¹¹⁴

Work referred to in (i) and (ii) above shall be supervised by a qualified petroleum geologist and carried out to the satisfaction of the Director of Petroleum Resources.¹¹⁵

The Oil Minerals (Safety) Regulations on their part impose duties on licensees and lessees. **Reg. 3** of the Regulations provides that:

- (a) every licensee or lessee under a licence or lease shall appoint a manager that shall have continual charge of all operations authorized by the licence or lease;
- (b) notify the Director of Petroleum Resources in writing of such appointment and of any subsequent appointment in place of an original or later appointment;
- (c) provide sufficient safety belts for the derrick men, hard hats and safety boots of a pattern to be approved by the Director of Petroleum Resources for persons working in every drilling and workover well;
- (d) provide adequate fire-fighting First Aid equipment in accordance with good operating practice and to the satisfaction of the Director of Petroleum Resources at every well being drilled or worked over, and at every block station, pump station or installation handling crude oil, natural gas or petroleum product;
- (e) ensure no person shall drill no borehole for petroleum oil or gas with its centre within 150ft of any building in which fire or lights other than a flame-proof or explosion-proof electric lighting installations are used, unless the said building shall have been evacuated, fire and exposed light extinguished for the period when drilling is in progress.

Reg. 4 imposes a one hundred naira fine or six months imprisonment or both fine and imprisonment on any licensee or lessee that fails to comply with the provisions of Reg. 3. This no doubt is a grossly inadequate penalty regime.

It is the duty of the manager appointed by the licensee or lessee to ensure that the provisions of the Regulations are complied with.¹¹⁶ The manager is required to in writing appoint competent persons for the purpose of supervising all drilling, production, transmission and loading operations and shall at once report such appointment to the Director of Petroleum Resources. Where no specific provision is made by the Regulations for drilling, production or transmission operations, the

¹¹³ Ibid Reg. 13

¹¹⁴ Ibid

¹¹⁵ Ibid

¹¹⁶ See Reg. 5 of the Mineral Oils (Safety) Regulations

drilling, production and other operations necessary for the production of oil and natural gas shall conform with good oilfield practices.¹¹⁷

Reg. 8 provides that every derrick floor¹¹⁸ shall have at least two clearly defined approaches which shall in addition be capable of being used as exits in case of danger and which shall be clear of obstruction at all times. Every dangerous part of any machinery shall be securely fenced or guarded unless it is in such a position or construction to be as safe to every person employed or working in the premises as it would be if securely fenced or guarded.¹¹⁹ The hook used for hoisting drill pipe tubing¹²⁰ or sucker rods¹²¹ shall be provided with a latch or other device sufficient to prevent the elevator links¹²² or other equipment from becoming detached from the hook.¹²³ Unless exemption has been obtained from the Director of Petroleum Resources, every derrick shall be provided with a life line¹²⁴ or life lines or other suitable device securely fixed at any platform in the derrick where persons are normally working and firmly anchored to the ground at least 50ft from the nearest point of the derrick. Such life line or life lines or other devices shall be anchored against the prevailing wind and shall not run over oil tanks or sumps.¹²⁵ No boiler¹²⁶ or oil treater¹²⁷ fired by a naked or open flame shall be placed within 150ft of the centre of any borehole being drilled for crude oil or gas or being worked over or within a 100ft of a dangerous area¹²⁸ As far as practicable any such boiler or treater shall be placed in an upwind position from nearest borehole or well in the direction of

¹¹⁷ Ibid Reg. 7

¹¹⁸ The framework over an oil well or similar boring holding the drilling machinery. A derrick is also a crane with a moveable pivoted arm for moving heavy weights especially on a ship. The derrick floor is the bottom of any of these equipment.

¹¹⁹ Ibid Reg. 9 (1)

¹²⁰ A drill pipe tubing is a pipe used for drilling that is tubed inside.

¹²¹ A sucker rod is a steel rod used in the oil industry to join together the surface and downhole components of a reciprocating piston pump (high pressure plunger pumps) installed in an oil well. The pumpjack (the overground drive for a reciprocating piston pump in an oil well used to mechanically lift liquid out of the well if there is not enough bottomhole pressure for the liquid to flow all the way to the surface) is the visible above ground drive for the well pump and is connected to the downhole pump at the bottom of the well by a series of interconnected sucker rods.

¹²² Elevator links are connecting points of an elevator.

¹²³ A hook is a piece of metal or other hard material curved or bent back at an angle for catching or holding things.

¹²⁴ A life line is an anchored line thrown as a support to someone falling or drowning. It is a line shot to a ship in distress. It is a line used to raise and lower deep sea divers. It is a means or route necessary supplies are transported. It is also a person regarded as a source of salvation in a crisis.

¹²⁵ A sump is an oil reservoir in an internal combustion engine. It also means a well or other hole water has collected. It also means a covered cistern waste water and sewage flow into.

¹²⁶ A boiler is a closed vessel in which water or other fluid is heated.

¹²⁷ An oil treater is a vessel that uses heat to break oil water emulsions (a fine dispersion of minute droplets of one liquid in another in which it is not soluble) so that the oil can be accepted by the pipeline for transport.

¹²⁸ Reg. 12 (1) The Mineral Oils (Safety) Regulations defined a dangerous area to include dangerous atmosphere and dangerous location i.e an atmosphere or location containing flammable gases or vapour capable igniting on least spark.

the prevailing wind and in a naturally ventilated area.¹²⁹ The use of internal combustion engines whether stationary or otherwise within 150ft of the centre of any borehole being drilled for crude oil or gas or worked over or within a 100ft of a dangerous area is not permitted unless (a) such precautions approved by the Director of Petroleum Resources are taken to prevent fire or explosion (b) exposed metal surfaces on exhaust manifolds do not exceed 700 degrees Fahrenheit in temperature.¹³⁰ Exhaust gases from internal combustion engines shall not be released into the atmosphere within 150ft of the centre of any borehole drilled for crude oil or gas or worked over or within 100ft of a dangerous area provided this provision shall not apply to motor vehicles, power driven vessels, hover aircrafts, helicopters or to internal combustion engines fitted with flame-proof attachments of the type approved by the Director of Petroleum Resources.¹³¹ Where electricity is used at a borehole being drilled for crude oil or gas or in any other dangerous area, the installation provided shall comply in every respect with the Institute of Petroleum Electrical Code.¹³² Every derrick at any well drilled or brought into production shall be fitted with a switch adjacent to the driller's usual working position capable of cutting off the electrical current from the electrical installation in the derrick.¹³³ All electrical apparatus for power purposes shall be certified flame-proof, in conformity with British standards and in compliance with the U.S National Electrical Safety Code.¹³⁴

Reg. 15 provides that all pressure vessels and their fittings shall meet the American Society of Mechanical Engineers code, and as far as their routine inspection and testing are concerned, shall comply with the requirements of the Factories Act. The regulation goes on to provide that:

- (a) oil heaters shall be examined at intervals of not more than 12 months and fire tubes replaced when below the minimum thickness;
- (b) all compressed air-receivers shall be drained of liquid daily;
- (c) relief valves and safety valves shall be inspected at least once in every 26 months.

Reg. 16 provides that all bulk storage tanks shall be fitted with access doors sufficiently large to enable easy access and vents capable of relieving any excess pressure. It should also have provision for containing leakage to prevent oil from contaminating water. Before permitting work men to enter any tank that previously contained petroleum, the manager shall ensure that the tank is gas free.¹³⁵ Adequate ventilation shall be provided during tank cleaning operations.¹³⁶ If during cleaning operations, gas concentration in the tank exceeds 0.05%, gas masks worn, hand lamps

¹²⁹ Ibid Reg. 12 (2)

¹³⁰ Reg. 13 (1)

¹³¹ Reg. 13 (2)

¹³² Reg. 14 (1)

¹³³ Reg. 14 (2)

¹³⁴ Reg. 15 (3)

¹³⁵ Reg. 16 (3)

¹³⁶ Reg. 16 (4)

and torches used shall be certified flame-proof.¹³⁷ All petroleum, diesel or Liquefied Petroleum Gas tanks shall be at least 150ft from the centre of any well drilled or worked over.¹³⁸ Unless a tank that has contained petroleum has been certified safe by a competent person, it shall not be entered by any person without a life line and unless accompanied by a second person who shall stand at a safe distance but in a position to observe if the 1st person is overcome by gas or fumes. Such 2nd person shall call for help or render any assistance without entering the tank.¹³⁹

Reg. 21 requires every licensee or lessee to install a fire-fighting equipment in his oil field. Personnel employed on site shall be instructed on the use of the fire-fighting equipment.

As the employer is subject to duties of safety, so are his employees. All employees have a duty to comply with safety regulations.¹⁴⁰ No child or young person shall be on the derrick floor while any well is being drilled or repaired.¹⁴¹ No person shall accumulate or permit the accumulation of flammable rubbish at any well, block station or other installation handling petroleum. Every person working on the derrick floor shall wear a safety belt, and every person working on a drilling rig shall wear a hard hat and safety boots.¹⁴² No tools, machine parts or other loose materials shall be kept in a derrick above the derrick floor unless such articles are required for immediate use in which case care shall be taken to prevent injury to persons below.¹⁴³ No person at any well or in any installation where petroleum is being handled shall sleep while in charge of boilers, consume any alcohol while on duty or report for duty while under the influence of alcohol.¹⁴⁴ No person at any well or other restricted area shall smoke, discharge any fire-arm or explosives, use any naked light or make any fire except in such places as may be set aside and notified by the manager or any other person authorized by the manager.¹⁴⁵ A competent person shall be at every well drilled or worked over to ensure the drilling or workover is properly done.¹⁴⁶ Any person employed who notices any unusual escape of petroleum oil or gas from any well or pipeline or anything unsafe or likely to produce damage shall immediately inform the manager or competent person.¹⁴⁷ The manager may report to the Director of Petroleum Resources if he has reason to believe that operations of a neighbouring licence or lease are being conducted in a manner that endanger the safety of any

¹³⁷ Reg. 16 (5)

¹³⁸ Reg. 17

¹³⁹ Reg. 18

¹⁴⁰ Reg. 28

¹⁴¹ Reg. 29

¹⁴² Regs. 30 and 31

¹⁴³ Reg. 34

¹⁴⁴ Reg. 37

¹⁴⁵ Reg. 38

¹⁴⁶ Reg. 39

¹⁴⁷ Reg. 44

person in the vicinity.¹⁴⁸ The Director of Petroleum Resources may exercise his powers under the Regulations personally or he may authorize another person to exercise them.¹⁴⁹

Rights and Powers of an Oil Prospecting Licensee and Oil Mining Lessee

Having been granted a licence to prospect for Petroleum or to mine petroleum, the licensee or lessee enjoys certain rights and powers as a result of the grant. These rights and powers include the right to:

- a. Clear timber and undergrowths;
- b. Make roads;
- c. Appropriate and use water found in the relevant area. However, the licensee or lessee shall not in the exercise of this right negatively impact on any land, village, house or watering place for cattle or interfere with any rights of water enjoyed by any person under the Land Use Act;¹⁵⁰
- d. Construct, maintain, operate, alter or dismantle industrial buildings and installations such as:
 - i. Drilling platforms, engines, power plants, flowlines, storage tanks, loading terminals, harbours, jetties, piers, moles, landing places and derricks;
 - ii. Means of communication including telephone lines and wireless stations;
 - iii) Facilities for shipping and aircraft;
 - iv) Living accommodation and amenities for the employees and workmen of the licensee or lessee; and
 - v) Search for, dig and get free of charge gravel, sand, clay and stone not subject to any licence or lease on condition that any such sand, gravel or clay shall not be sold.¹⁵¹

The licensee or lessee may exercise any of his rights or powers through agents or independent contractors, but shall be responsible for all the actions of the agents and contractors in question.¹⁵²

Duties of an Oil Prospecting Licensee and Oil Mining Lessee

An oil prospecting licensee and an oil mining lessee have a duty to:

- i. Within twelve months of the grant of licence or lease, submit for the Minister's approval, a detailed programme for recruitment and training of Nigerians. The programme shall provide for the training of Nigerians in all phases of petroleum

¹⁴⁸ Reg. 45

¹⁴⁹ Reg. 46

¹⁵⁰ In some countries, the licensee or lessee does not have a right to free use of water resources as provided in this regulation.

¹⁵¹ Ibid Reg. 15 (1)

¹⁵² Ibid Reg. 15 (2)

- operations whether the phases are handled directly by the lessee or through agents and contractors;¹⁵³
- ii. Comply with any law relating to town or country planning.¹⁵⁴
 - iii. Allow people have access or use at their own risk roads constructed by the licensee or lessee pursuant to prospecting for oil or mining oil provided that:
 - (a) Where such a road is used by a third party in a manner that does appreciable damage to the road or increases substantially the licensee's or lessee's cost of maintaining the road, such a person may be called upon to contribute to the cost of maintaining the road and if he fails to make the contribution, the licensee or lessee with the consent of the Minister may prevent him from using the road;
 - (b) Where any person uses such a road in a manner that interferes in a material way with the licensee's or lessee's free use and enjoyment of the road, the licensee or lessee may call upon such person to limit his use of the road so as to end the interference, and if that person does not limit his use of the road, the licensee or lessee with the permission of the Minister may prevent that person from using the road;¹⁵⁵
 - iv) Except with the consent of the Minister cultivate the area subject to the licence or lease in any manner save for the purpose of the licence or lease;¹⁵⁶
 - v) Except with the consent of the state authority and on payment of the appropriate fees and royalties, cut down any protected or productive tree.¹⁵⁷ If he cuts down any protected or productive tree, he shall pay fair and adequate compensation to the owner thereof. Where there is dispute on the owner of the tree or on the quantum of compensation payable, the licensee or lessee shall deposit with the authority such sums as appear to that authority reasonable or fair compensation to the owner.¹⁵⁸ Authority here should be DPR.
 - vi) Upon or before completion of work, all excavations shall be filled by the licensee or lessee as far as may be reasonably practicable to the satisfaction of the Director of Petroleum Resources.¹⁵⁹ This is an inadequate provision for decommissioning and abandonment. A more robust provision on decommissioning and abandonment is provided in chapter twenty-three of this text.

¹⁵³ This provision offends the investment protection rule that forbids requiring foreign investment on admission into a country to employ a particular percentage of citizens of the host state.

¹⁵⁴ See Reg. 18. In some jurisdictions, this right does not exist

¹⁵⁵ Ibid Reg. 19

¹⁵⁶ Ibid. 20

¹⁵⁷ A protected tree is defined by Reg. 21 (3) to mean a tree protected by law such as a tree in a forest reserve, while a productive tree is defined by the same regulation as a tree having commercial value. An example of such tree is a locust beans tree.

¹⁵⁸ Ibid Reg. 21

¹⁵⁹ Ibid Reg. 15 (1) (f)

It is worth noting that unlike an oil exploration licensee, an oil prospecting licensee's and an oil mining lessee's rights are more flourishing and are exercised without let or hindrance by the Minister of Petroleum. Be this as it may, the Minister or any person authorized by him shall have the right to enter an area covered by an oil prospecting licence and an oil mining lease to dig, work and get any substance other than petroleum and generally for any purpose other than those for which a licence or lease have been granted.¹⁶⁰ Also the governor of a state shall retain the power in and rights conferred on him by law in respect of such parts of the area covered by the licence or lease that are in his state.¹⁶¹ The regulations went to provide that the powers conferred on the Minister or Governor of a state cannot be exercised by either in such a manner as will violate or render nugatory the rights or powers of the licensee or lessee.¹⁶²

In the exercise of his rights and powers pursuant to an oil prospecting licence or oil mining lease, a licensee or lessee is subject to some restrictions. These include:

- i. He is not authorized to enter upon or occupy any land considered sacred even if it is within the area covered by the licence or lease. The question whether an area is sacred or not is decided by the state;¹⁶³
- ii. Without permission to do so by the Petroleum Minister, he is not authorized to enter or occupy any of the following parts of the relevant area:
 - a. any part of the licensed or leased area set apart for public use or purposes;
 - b. any part occupied for governmental purposes either of a state or the federation;
 - c. any part situate within a township, village, market, or burial ground;
 - d. any part which is the site of or is within fifty yards of any building, installation, reservoir, dam, public road or tramway or which is situated within fifty yards of a railway;
 - e. any part actually under cultivation; or
 - f. any part consisting of private land (other than the private land the Minister of Petroleum Resources has already given permission to in (ii) unless and until permission has been obtained by the licensee or lessee from the Minister who may grant the permission if the licensee or lessee has first, given previous notice in writing to the Minister specifying by name or other sufficient designation the land proposed to be occupied and the purpose of the occupation, and secondly, he has paid or tendered to the

¹⁶⁰ Ibid Reg. 16 (1)

¹⁶¹ Ibid Reg. 16 (2)

¹⁶² See Reg. 16 (3)

¹⁶³ The PIB in section 198 – 199 provides likewise that a licensee or lessee shall not in the course of his operations injure or destroy any tree or object that is of commercial value, or is the object of veneration to the people in the area. A licensee or lessee that damage or injure a tree or object of commercial value or veneration shall pay fair and adequate compensation and if he fails to do his licence or lease may be revoked.

person in lawful occupation of or to the land owner fair and adequate compensation.

- iii) The licensee or lessee in the exercise of his rights and powers should not unreasonably interfere with the exercise of any fishing rights of fishermen in the area covered by his licence or lease. If he does, he would be liable to pay adequate compensation to any person injured by the exercise of his rights;¹⁶⁴
- iv) Any works or installations erected by the licensee or lessee for offshore operations shall be so constructed, placed, marked, buoyed, equipped and maintained as to have at all times safe and convenient channels for shipping in the relevant area. Without prejudice to the generality of the foregoing, he shall install such audible or visual navigation aids as may be approved or required by the Federal Government or any other authority having jurisdiction and shall maintain the same in the manner satisfactory to the government or authority;
- v) The licensee or lessee shall adopt all practicable precaution including the provision of up to date equipment approved by the Director of Petroleum Resources, to prevent the pollution of inland waters, rivers, watercourses, the territorial waters of Nigeria or the high seas by oil, mud or other fluids or substances which may contaminate the water, banks or shoreline or which might cause harm or destruction to fresh water or marine life, and where any such pollution occurs or has occurred, shall take prompt steps to control, and if possible, end it.

Once an oil exploration, prospecting licensee or an oil mining lessee observe his limits, any person who interferes with or obstructs the holder of a licence or lease or his servants or agents in the exercise of any rights, power or liberty conferred by the licence or lease shall be guilty of an offence and on conviction shall be liable to a fine not exceeding N200.00 or imprisonment for a period not exceeding six months or to both fine and imprisonment.¹⁶⁵ The fine of 200.00 in the context of the erosion of the value of the naira is absurd. Be this as it may, by this provision acts of harassment and vandalism of host communities against licensed oil operators by their host communities are acts in contravention of this provision.

The first schedule to the 1969 Petroleum Act in its turn provides that the licensee or lessee of an oil prospecting licence or oil mining lease shall comply with any enactment relating to town or country planning or regulating the construction, alteration, repair or demolition of buildings, or providing for similar matters, which affects him in carrying out the operations authorised by the licence or lease.¹⁶⁶

Providing further for the duties of a licensee and lessee, the 1969 Petroleum Act provides that the holder of any licence or lease shall at all times indemnify and keep

¹⁶⁴ On the basis of a provision like this, oil communities in the Niger Delta sue IOCs and NNPC.

¹⁶⁵ See section 13 (1) of the Petroleum Act.

¹⁶⁶ See paragraph 36 of the first schedule

harmless the Federal Government, the Minister and every officer in the civil service of the Federation or the States (and their agents) against all actions, costs, charges, claims and demands howsoever which may be made or brought by any third party in relation to any matter or thing done or purported to be done pursuant to the Act.¹⁶⁷ If any fee, rent or royalty due under this Act is unpaid for a period of one month after the date when it becomes due (whether legally demanded or not), the Minister may, in addition to any other remedies which may be available:

- (a) enter into and upon any land, property or premises possessed or occupied by the licensee or lessee in connection with the licence or lease; and
- (b) seize, distrain and sell as landlords may do for rents in arrear, any petroleum, petroleum products, engines, machinery, tools, implements or other effects belonging to the licensee or lessee which may be found in or upon the land, property or premises; and
- (c) out of moneys arising from the sale of the distress, retain and payoff the arrears of the said fee, rent or royalty and also the costs and expenses incident to the distress and sale, rendering the surplus (if any) to the licensee or lessee.¹⁶⁸ Failure on the part of the holder of a licence or lease to fulfil any of the terms or conditions of the licence or lease shall not (except as may be otherwise provided for in or in relation to the licence or lease) give the Minister any claim against the licensee or lessee, or be deemed a breach of the licence or lease, if the failure arises from causes beyond the control of the licensee or lessee.¹⁶⁹ If from any such cause the fulfilment by any such licensee or lessee of any term or condition of his licence or lease or of any provision of the Act is delayed, the period of delay shall be added to the period fixed for the fulfilment of the term or condition.¹⁷⁰ If any question or dispute arises in connection with any licence or lease between the Minister and the licensee or lessee (including a question or dispute as to the payment of any fee, rent or royalty), the question or dispute shall be settled by arbitration unless it relates to a matter expressly excluded from arbitration or expressed to be at the discretion of the Minister.¹⁷¹

Section 13 (2) of the Petroleum Act provides that any person who explores for petroleum or prospects for petroleum without a licence commits an offence and upon conviction is liable for a ₦2,000.00 fine. This fine is meaningless in the context of the low value of the naira. If in the course of exploration or prospecting without a licence, he wins petroleum, he will be guilty of an offence similarly punishable on

¹⁶⁷ Ibid paragraph 39. This is a provision NNPC can invoke against IOCs when they are sued by oil host communities over environmental pollution in the form of oil spills or gas flaring.

¹⁶⁸ Ibid paragraph 40

¹⁶⁹ Ibid paragraph 41 (1). This provision raises force majeure.

¹⁷⁰ Ibid paragraph 41 (2)

¹⁷¹ Ibid paragraph 42

conviction. It is also likely that he may be required to forfeit the petroleum he has won to the Minister of Petroleum or pay to the Minister the value of same.¹⁷²

Environmental Quality Management

Licensees and lessees are required within three months of being granted a licence or lease to submit an environmental management plan to the Inspectorate for approval.¹⁷³ The environmental management plan shall contain the licensee's or lessee's environmental policy objectives and targets and commitment to comply with relevant laws, regulations guidelines and standards.¹⁷⁴ It shall also contain an assessment of the impact of the licensee's or lessee's operations on the environment and people. It shall contain an environmental awareness plan describing the manner the licensee or lessee intends to inform his employees of environmental risks of their operations and how such employees will avert those risks.¹⁷⁵ No chemicals shall be utilized for upstream operations unless the Inspectorate has granted a permit for its use.¹⁷⁶ This is a good provision considering the volumes of chemicals used in the production of crude oil.

Domestic Gas Supply Obligation

The Petroleum Industry Act requires the Upstream Petroleum Inspectorate to determine the needs of the domestic gas market based on domestic gas demand and then impose a Domestic Gas Supply Obligation (DGSO) on all lessees. It also contains provisions to ensure that all lessees comply with the Domestic Gas Supply Obligation.¹⁷⁷ This provision of the Petroleum Industry Bill does not seem to be quite appropriate. Supply of gas is a downstream activity. Therefore, the right agency that should impose a DGSO is the Downstream Petroleum Regulatory Agency (DPRA), not the Upstream Petroleum Inspectorate. What the Upstream Petroleum Inspectorate may impose is a Domestic Gas Production Obligation, if that is possible. Recognizing that this is the type of obligation the Inspectorate is capable of, section 183 (2) of the Bill provides that the Inspectorate shall require the lessee producing gas to carry out all such works and operations as may be required to increase production in order to dedicate specific volumes of the gas produced towards the requirements of the domestic gas market. Even this provision is not necessary because when the gas leaves upstream for downstream, it is likely to be processed without reference to any specific volumes produced upstream for domestic consumption. All said and done, imposition of a Domestic Gas Supply Obligation is the function of the DPRA which section 269 (3) of the Bill has appropriately fixed it with.

¹⁷² See section 13 (4) of the Petroleum Act.

¹⁷³ Ibid section 200 (1)

¹⁷⁴ Ibid

¹⁷⁵ Ibid section 200 (3)

¹⁷⁶ Ibid section 200 (5)

¹⁷⁷ Ibid section 183 (1)

The Bill provides that any lessee that fails to comply with the Domestic Gas Supply Obligation shall not be entitled to supply gas for export and in addition may be required by the Inspectorate to cease operations.¹⁷⁸

Transparency

Under the old petroleum law, there is a lot of confidentiality and secrecy on issues of royalties taxes, concession rentals and bonus fees that oil companies pay to the Nigerian government after a successful bid for an oil bloc and production of oil from it. The Petroleum Bill tries to change this by providing for transparency on such issues.

The Petroleum Industry Bill seeks to void confidentiality clauses in licences and leases that are meant to prevent third parties access to information and documents on payment of royalties, fees, bonuses and taxes.¹⁷⁹ Also the text of any subsisting or future licence or lease or contract with the National Oil Company and any amendments or side letter thereto shall not be confidential but shall be published on the website of the Inspectorate.¹⁸⁰ Failure to publish the text of such licence, lease or side letter is an offence punishable with a 10,000 American dollars fine for every day the text remains unpublished.¹⁸¹

All these sections of the Petroleum Industry Bill aim at transparency, which is lacking in the old law. Be this as it may, the fine of 10,000 American dollars appears to be on the high side, and being on the high side may not be enforced.

Further to its transparency provisions, the Bill provides that data obtained from production in a petroleum mining lease shall not be confidential. Data obtained from exploration or prospecting pursuant to an exploration or prospecting licence shall be confidential only for five years or until such time that the exploration or prospecting ends.¹⁸²

It is understandable why the Act makes an exception to disclosure in favour of an oil exploration and oil prospecting licence. Disclosing such data can be prejudicial to the licensee yet to obtain an oil mining lease and therefore yet to commence mining. In fact a licensee may not intend to apply for a mining lease, but to sell the data he has acquired to another person who would then apply for a mining lease. In either case, it is harmful to the interest of the licensee to disclose his data before selling it or applying and obtaining a mining lease. It is understandable why no exception is made in favour of a lessee already mining. Such lessee has nothing to fear or lose from disclosure. Be this as it may, this provision of the Bill also aims at transparency.

¹⁷⁸ Ibid section 183 (5)

¹⁷⁹ See section 174 (1) of the PIB

¹⁸⁰ Ibid section 174 (6)

¹⁸¹ Ibid section 174 (7)

¹⁸² See section 174 (9)

Further providing for transparency, the Bill provides that all data in the national petroleum data bank shall be accessible to any interested person under such access agreements as may be determined by the Inspectorate.¹⁸³ This provision does not make exception to exploration and prospecting data of an oil exploration and oil prospecting licensee thereby giving the impression that such data can be accessed in the manner here provided. It is submitted that having made such data confidential for five years or such period that oil exploration or oil prospecting last, it is only fair and logical that during any of these periods, such data cannot be accessed.

By the provisions of the new law, it means that not only will information on such matters as royalties, taxes concession rentals and bonuses paid to the Nigerian government should be published, a member of the Nigerian public desiring to know any of these matters can apply, perhaps on payment of a token fee to be given the information he needs. However, the Act does not provide to who such an application be made, it is submitted that it is logical that it be made to the Director General of the Upstream Petroleum Inspectorate.

¹⁸³ Ibid section 174 (11)

Drilling and Production of Oil

Stage for Oil Drilling and Production

After prospecting for oil pursuant to the grant of an oil prospecting licence by the Minister of Petroleum, the stage is set for drilling and production of oil, if the oil prospecting licensee finds oil in the course of prospecting for it. However, before drilling to produce oil, the licensee needs to be granted an oil mining lease by the Minister of Petroleum. All these matters are provided for by Nigerian petroleum law.

Drilling for Oil and Production of Oil

Drilling for oil is largely concerned with prospecting drilling while production of oil is bringing out the oil from the ground. Section 2 (1) (c) of the 1969 Petroleum Act provides that the Minister of Petroleum may grant to a lessee an oil mining lease to search for, win, work, carry away and dispose of petroleum.

The use of the term *search* in the above provision is curious. Strictly speaking *searching* belongs more to exploration and prospecting than to mining. Mining is more a matter of reaching already found oil and bringing it out. Of course, after reaching and bringing out already found oil, the miner may still search for more oil in the drilled well. In this context then, searching will be an appropriate term for an oil mining lease.

The Petroleum Drilling and Production Regulations made pursuant to the Petroleum Act provides for drilling and mining of petroleum. It provides in Reg. 32 that:

'Not later than eighteen months from the date of the grant of an oil prospecting licence, the licensee shall begin drilling operations with a modern oil well drilling outfit and shall drill on the average one well each year commencing from the second year in the relevant area to penetrate through all the prospective zones: Provided that an aggregate of three wells drilled through all the prospective zones in the relevant area shall be sufficient to satisfy the minimum drilling obligations for conversion of the licence to a lease.

The fundamental position of at least Nigerian law is that a person granted a licence to explore or prospect for petroleum or a lease to mine petroleum either drills or drops. There are two reasons for this legal position:

- a. The national desire to increase oil reserves
- b. The desire to discourage people without technical competence and without financial resources from applying for petroleum exploration and prospecting licences or petroleum mining leases.

Section 33(1) of the Petroleum Drilling and Production Regulations provides that:

No borehole or well shall be commenced, or re-entered after work has been stopped for six months, without the written approval of the Director of Petroleum Resources and the payment of a fee of ₦5,000: Provided however that any approval granted under this regulation shall be revalidated if work does not commence within six months of the grant of the approval on the payment of a fee of ₦2,500.

The reason for this provisions are:

- i. to discourage well abandonment
- ii. to keep the Director of Petroleum Resources informed and in control of petroleum drilling and mining processes.

Section 33 (2) of the Petroleum Drilling and Production Regulations provides that: 'As soon as the site of any borehole or well has been decided, the licensee or lessee shall notify the Director of Petroleum Resources and the ports authority, (where appropriate) in writing of the proposed site in accordance with the following provisions:

- a. In the case of an exploration hole or any hole penetrating any previously undrilled structure, strata or pool, the notification to the Director of Petroleum Resources shall contain:
 - i. The name or proposed name of the field followed by the figure I;
 - ii. The preliminary co-ordinates and elevation of the proposed location;
 - iii. A seismic map or plan of the structure or structures to be investigated and the estimated date of spudding,¹ which shall not be less than 21 days from the date of the notification; and
 - iv. all such other information, including information as to the drilling, casing, testing, cementation and completion programs proposed by the licensee or lessee, as the Director of Petroleum Resources may by notice in writing require from time to time;

¹ Spudde is a short knife. In oil drilling, spudding means the very start of drilling a new oil well. The American Petroleum Institute used the word spud in combination with other words such as: (i) spud Contractor. A spud Contractor is the Contractor spudding the well. (ii) spud day. A spud day is the day when the drilling bit penetrates the surface utilizing a drilling rig capable of drilling the well to the authorized total depth. (iii) spud time. Spud time is the actual time (hours and minutes) when the drilling bits penetrate the surface utilizing a drilling rig capable of drilling the well to the authorized depth. (iv) spudding in. spudding in is the very beginning of drilling operations of a new well.

- b. In the case of a development or appraisal hole or a hole penetrating only previously drilled structures, strata or pools, the seismic maps or plans of which have already been submitted to the Director of Petroleum Resources, the notification shall contain the approved name of the field and its number which shall represent the chronological sequence in which the well is to be drilled relative to the exploration well which shall always bear the figure I together with:
- (i) Its preliminary co-ordinates and elevation;
 - (ii) Its estimated date of spudding which shall not be less than 21 days from the date of the notification; and
 - (iii) All such other information including information as to the drilling, casing, cementation, testing and completion programs as the Director of Petroleum Resources may by notice in writing require from time to time.

Section 33 (3) also provides that: 'Where the Director of Petroleum Resources is satisfied with the programme, he shall upon a fee of ₦50,000 being paid by the licensee or lessee, give his written approval to the drilling of the well together with such observation and comments as he may wish to make. The fee of ₦50,000 is meaningless in the context of the fallen value of the naira.

Section 33 (4) provides that: 'If he is not satisfied with the programme, the Director of Petroleum Resources may withhold his permission, but he shall convey to the licensee or lessee the reasons for his refusal.

All the foregoing provisions of the Petroleum Drilling and Production Regulations aim at ensuring that the Director of Petroleum Resources keeps track of developments in oil fields and oil wells so that if something is not done properly, he may require that it be done right. This presupposes that the Director or at least his supporting staffs are technically sound and knowledgeable in oil fields development.

Operation of Drilling Rigs

Section 35 of the Petroleum Drilling and Production Regulations provide for operations of Drilling Rigs. It provides as follows:

- (1) No person shall operate a drilling rig without a valid licence granted by the Minister or any other public officer in the Ministry authorized in that behalf, in writing, by the Minister.
- (2) The following provisions shall apply in respect of a licence granted under this regulation:
 - (a) the licence shall expire on the 31st December next following the date on which it was granted, but may be renewed upon application in writing made at least two months before the expiry;
 - (b) the licence may be withdrawn or suspended for a stated period if the rig is operated in contravention of any enactment, or if the owners or operators thereof do not comply with instructions issued by the Director of Petroleum Resources;

- (c) the licence shall not be transferable;
 - (d) a copy of the current licence shall be displayed on the rig and the original shall be available for inspection at all times on the rig.
- (3) Applications for a licence to be granted under this regulation, and any licences so granted, shall be in the appropriate form in the Schedule to these Regulations.

Maintenance of Apparatus and Conduct of Operations

Providing for maintenance of apparatus and conduct of operations, Reg. 37 of the Petroleum Drilling and Production Regulations provides thus:

- (1) The licensee or lessee shall maintain all apparatus and appliances in use in his operations, and all boreholes and wells capable of producing petroleum, in good repair and condition, and shall carry out all his operations in a proper and workmanlike manner in accordance with these and other relevant regulations and methods and practices accepted by the Director of Petroleum Resources as good oilfield practice; and without prejudice to the generality of the foregoing he shall, in accordance with those practices, take all steps practicable to:
- (a) control the flow and prevent the escape or avoidable waste of petroleum discovered in or obtained from the relevant area;
 - (b) prevent damage to adjoining petroleum-bearing strata;
 - (c) except for the purpose of secondary recovery as authorized by the Director of Petroleum Resources, to prevent the entrance of water through boreholes and wells to petroleum-bearing strata;
 - (d) prevent the escape of petroleum into any water, well, spring, stream, river, lake, reservoir, estuary or harbour; and
 - (e) cause as little damage as possible to the surface of the relevant area and to the trees, crops, buildings, structures and other property thereon.

Section 99 of the Minerals Mining Act in providing for the protection of the environment from oil pollution during oil mining provides that the holder of a mining lease shall in the exercise of its rights under the lease pay regard to the effect of the mining operations on the environment, and take such steps as may be necessary to prevent pollution of the environment by its mining operations. Section 65 of the same Act prohibits pollution of waters by mining operations generally.

Boundary marks

Reg. 47 of the Petroleum Drilling and Production Regulations provides for boundary marks. It provide thus:

- (1) The licensee or lessee shall, if so required by the Director of Petroleum Resources, at his own expense forthwith erect and at all times maintain and keep

in repair substantial boundary marks of brick, stone or concrete not less than one foot high at every angle or corner of the boundary line of the relevant area.

- (2) The boundary marks shall be related by survey to at least two readily identifiable points in such a manner that the boundaries of the relevant area can be accurately traced on the ground.
- (3) The licensee or lessee shall ensure that the relevant area as demarcated on the ground conforms to the relevant area as delineated on the plan attached to his licence or lease.

An oil prospecting licence and an oil mining lease confer an exclusive right to the licensee or lessee to the area covered by the licence or lease. Maintaining boundary marks prevents other licensees or lessees from encroaching on a prospecting licensee or lessee's licensed or leased area. In requiring licensees to erect boundary marks, the law does not distinguish between a prospecting licensee and an exploration licensee. This being the case, it is likely to be that an exploratory licensee like a prospecting licensee is also required to erect boundary marks. Though not enjoying exclusive right over the licensed area, he may for want of a boundary stray into the exclusive licensed or leased area of a prospecting licensee or mining lessee.

Be this as it may, boundary marks are more useful and relevant in respect of onshore oil blocs. In respect of offshore oil blocs, GPS coordinates are more useful in setting out boundaries than physical boundary marks.

Field Development Programme

Reg. 38 of the Petroleum Drilling and Production Regulations provide for field development programme. It provide thus:

All fields, structures, reservoirs and other oil traps shall be developed and produced in strict accordance with a field development programme, which shall be submitted for the prior approval of the Director of Petroleum Resources and shall give details of the estimated size of the pool,² the known physical parameters of the pools, reservoirs or structures at the time of drawing up the programme, the intended drilling pattern (if any), the production or drainage pattern, and the anticipated drive mechanism: provided that no such field development programs shall be required to be submitted during the initial phase when the extent of a field structure, reservoir or pool is being appraised and wells are being drilled.

² A petroleum pool is a subsurface accumulation of crude oil or natural gas contained in porous and permeable rock whose presence has been proven by the drilling of petroleum wells and from which hydrocarbons have been or are being produced or are capable of being produced in economic quantities.

Progress Reports

Reg. 54 provides for the submission of progress reports to the Director of Petroleum Resources. It provides thus:

- (1) The licensee or lessee shall furnish within 21 days after the end of each month to the Director of Petroleum Resources and Director of Geological Survey, in a form from time to time approved by the Director of Petroleum Resources, a report of the progress of his operations containing particulars of the contents of the record required to be kept under these Regulations, and in addition a statement of the areas in which the licensee or lessee has carried out any geological or geophysical work and an account of the work in question.
- (2) The licensee or lessee shall within one month after the end of each quarter furnish to the Director of Petroleum Resources and the Director of Geological Survey a report in a form from time to time approved by the Director of Petroleum Resources of the operations conducted in the relevant area during each quarter, and a forecast of activities in the ensuing quarter, together with a plan upon a scale approved by the Director of Petroleum Resources showing the situation of all boreholes or wells.
- (3) The licensee or lessee shall within two months of the end of each calendar year, or any such extended time as the Director of Petroleum Resources may allow, furnish a report containing such information regarding the progress of work in the relevant area in that year as the Director of Petroleum Resources may from time to time specify.

Production of Crude Oil and Natural Gas

Reg. 39 provides for production of crude oil and natural gas. It provide thus:

The licensee or lessee shall use approved methods and practices acceptable to the Director of Petroleum Resources for the production of crude oil or natural gas from any pool or reservoir, and shall in particular take all necessary steps to:

- (a) obtain the initial physical characteristics of the reservoir fluids and reservoir parameters such as temperatures, pressures, gas oil ratios, bubble point pressures, porosities, viscosities, relative permeabilities in relation to fluid saturations, fluid gravities and the like, the detailed data and results and analyses of which shall be submitted to the Director of Petroleum Resources prior to, or as soon as possible after, the commencement of production from any such pool or reservoir;
- (b) obtain periodical information on the data required to be obtained by paragraph (a) of this regulation, at intervals approved by the Director of Petroleum Resources;
- (c) cause every pool in each well to produce within the limits of its maximum efficient potential or rate as may be determined from time to time by the licensee or

lessee, and to submit the results of his determinations to the Director of Petroleum Resources half-yearly.

Confinement of Petroleum

Reg. 40 provides for confinement of petroleum. It provide thus:

(1) The licensee or lessee shall use approved methods and practices acceptable to the Director of Petroleum Resources for confining the petroleum obtained from the relevant area in tanks, gasholders, pipes, pipelines or other receptacles constructed for that purpose.

Petroleum is a dangerous, volatile and highly inflammable substance. This provision is made in recognition of this fact. Unless so confined petroleum can start a fire or do some other damage that can be very costly. This provision heeds the warning of Blackburn J. in *Rylands v. Fletcher*³

The facts of the case were that in 1860, John Rylands paid contractors to build a reservoir on his land, intending that it should supply the Ainsworth Mill with water. Rylands played no active role in the construction, instead he contracted out the construction to a competent engineer. While building it, the contractors discovered a series of old coal shafts and passages under the land filled loosely with soil and debris, which joined up with Thomas Fletcher's adjoining mine. Rather than blocking these shafts, the contractors left them open. On 11th December 1860, shortly after being filled with water for the first time, Rylands's reservoir burst and flooded Fletcher's mine causing £937 worth of damage. Fletcher pumped the water out, but on 17th April 1861 his pump burst, and the mine again began to flood. At this point, a mines inspector was brought in, and the sunken coal shafts were discovered. Fletcher brought a claim against John Rylands, the owner, and Jehu Horrocks, the manager of Rylands's reservoir.

On these facts, Blackburn J. Held:

We think that the true rule of law is, that the person who for his own purposes brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it at his peril, and, if he does not do so, is *prima facie* answerable for all the damage which is the natural consequence of its escape. He can excuse himself by showing that the escape was owing to the Plaintiff's default; or perhaps, that the escape was the consequence of *vis major*, or the act of God; but as nothing of this sort exists here, it is unnecessary to inquire what excuse would be sufficient. The general rule, as above stated, seems on principle just. The person whose grass or corn is eaten down by the escaping cattle of his neighbour, or whose mine is flooded by the water from his neighbour's reservoir, or

³ (1868) AC 189

whose cellar is invaded by the filth of his neighbour's privy, or whose habitation is made unhealthy by the fumes and noisome vapours of his neighbour's alkali works, is entitled to damages from his neighbour without any fault of his neighbour; and it seems but reasonable and just that the neighbour who has brought something on his own property (which was not naturally there), harmless to others so long as it is confined to his own property, but which he knows will be mischievous if it gets on his neighbour's, should be obliged to make good the damage which ensues if he does not succeed in confining it to his own property. But for his act in bringing it there no mischief could have accrued, and it seems but just that he should at his peril keep it there, so that no mischief may accrue, or answer for the natural and anticipated consequence. And upon authority this we think is established to be the law, whether the things so brought be beasts, or water, or filth, or stench.

The rule in *Rylands v. Fletcher*⁴ as the above decision became popularly known is one that can easily lead to liability for a petroleum mining lessee if petroleum kept by him escapes his premises to do damage to the property of another. To make him liable, the aggrieved party need not show he caused the petroleum to escape his premises. Once the aggrieved person can show that the petroleum left his premises and damage his property, the petroleum mining lessee will be liable unless he can show that the petroleum escape his premises by the act of a third party. To avoid such liability Reg. 40 of the Petroleum Drilling and Production Regulations provide for confining the petroleum.

In *Thony Atubie v. Shell B.P. Development Co. of Nigeria Ltd*⁵ the plaintiffs founded their claim for damages for oil environmental damage on *Ryland v. Fletcher*⁶ but failed for lack of evidence of negligence. The facts of the case were that the plaintiffs claimed that the defendant in its oil drilling and production allowed crude oil, gas and other chemicals from the defendant's pipelines to escape into the plaintiffs' farmlands and lakes killing fishes therein. On these facts, the court held that the plaintiffs claim for damages failed because they were not able to prove negligence against the defendant. It is submitted that the decision of the court in this case was wrong. What is needed under the strict liability regime in *Ryland v. Fletcher*⁷ is escape of a dangerous substance, and not proof of negligence that might have led to the escape.

⁴ (1868) 1 All ER 201

⁵ (Unreported) UCH/48/73 of 12th November, 1974

⁶ *Supra*

⁷ *Supra*

In *Chief Otuku v. Shell B.P.*⁸ the rule in *Rylands v. Fletcher*⁹ was properly applied. In this case the defendant placed a manifold on land which resulted in oil overflowing and polluting the vegetation and fish ponds of the plaintiff. The placing of the manifold by the defendant was held by the court as a non-natural use of land. This non natural use of land having led to an escape of a dangerous substance that damage the plaintiff's property, the defendant was held strictly liable without need of proof of negligence for the escape.

Similarly, in *Sam Ikpede v. Shell B.P. (Nig) Ltd*¹⁰ the plaintiff who suffered damages as a result of the escape of crude oil and other chemicals from pipelines belonging to the defendant's company, relied on the rule in *Rylands v. Fletcher*¹¹ to claim damages for the damage of his land and fishing pond as a result of the escape of the oil and chemicals. Finding for the plaintiff the court held that it is a non-natural use of land to lay pipes through forests and swamps for the carriage of crude oil.

In *Umudge v. Shell B.P Nig. Ltd*,¹² the Supreme Court held that the defendant oil company was liable under the rule in *Rylands v. Fletcher*¹³ when crude oil collected and kept in a pit under the occupation and control of the defendant escaped onto the adjoining land of the plaintiff damaging the plaintiff's fish pond and lake.

Drainage of waste oil

Reg. 41 providing for drainage of waste oil provides that: 'The licensee or lessee shall drain all waste oil, brine¹⁴ and sludge or refuse from all storage vessels, boreholes and wells into proper receptacles constructed in compliance with safety regulations made under the Act or any other applicable regulations, and shall dispose thereof in a manner approved by the Director of Petroleum Resources or as provided by any other applicable regulations.'

Failure by a licensee or lessee to heed this provision can easily lead to environmental pollution. If this happens, the licensee or lessee can be proceeded against in court on the basis of this provision by any person injured by the pollution. In addition such licensee or lessee can also be sued under the Rule in *Rylands v. Fletcher*¹⁵ and he will be liable to the plaintiff if he cannot avail himself of any of the defences the rule provides for.¹⁶

⁸ Unreported

⁹ *Supra*

¹⁰ Unreported

¹¹ *Supra*

¹² (1975) 11b SC 115

¹³ *Supra*

¹⁴ Brine is salt water; a strong salt solution

¹⁵ *Supra*

¹⁶ Act of an unknown third party, contributory negligence, consent and statutory authority are all defenses to the strict liability rule in *Rylands v. Fletcher*.

Compliance with safety regulations and instructions

Reg. 45 provides for compliance with safety regulations and instructions. It provides that: 'The licensee or lessee shall comply with all existing safety regulations and all such instructions as may, from time to time, be given in writing by the Director of Petroleum Resources for securing the health and safety of persons engaged with operations under his licence or lease.'

The Regulations only talks of the safety of persons engaged in operations which means the licensee or lessee's staff. They do not seem to avert to health and safety of third parties who may be adversely affected by the failure of the licensee or lessee to comply with safety regulations and instructions. Even for staff, the safety regulations or instructions licensees and lessees are to comply with are not specified by the Regulations. Neither do the Regulations mention who will issue the regulations or instructions. Though not mentioned by the Regulations, DPR naturally would issue the regulations and instructions. The licensee or lessee can also issue his regulations and instructions for the health and safety of his staff. Be this as it may, in-house regulations and instructions are not the focus of the regulation under reference, but external regulations issued by DPR.

Termination

Termination of a licence or lease is different from revocation of the licence or lease earlier dealt with in this text. Revocation is shooting down a licence or lease in mid-flight while termination is the licence or lease perching after flight. Reg. 46 provides for termination of a licence or lease. It provides that:

- (1) The licensee or lessee shall within two months or such further period as the Minister may approve after the termination of his licence or lease:
 - (a) deliver up to the Minister, in good order, repair and condition and fit for further working, all productive boreholes or wells (unless the Director of Petroleum Resources requires the licensee or lessee in writing to plug them as he may direct or as provided by these Regulations) together with all casings and other appurtenances to the boreholes and wells which are below the Christmas tree and cannot be moved without causing injury to the said boreholes or wells;
 - (b) fill up and fence all holes (other than boreholes and wells) and excavations that he has made in the relevant area to such an extent as the Director of Petroleum Resources may reasonably require; and
 - (c) to the like extent take reasonable steps to restore as far as possible to their original condition the surface of the relevant area and all buildings and structures thereon which have been damaged in the course of his operations.

- (2) Within two months (or such further period as the Director of Petroleum Resources may approve) after the termination of his licence or lease, the licensee or lessee shall, if so required by the Director of Petroleum Resources, plug every borehole which the Director of Petroleum Resources may indicate in the manner specified by the Director of Petroleum Resources.
- (3) On the termination of his licence or lease the licensee or lessee shall, subject to the rights of the owners of the surface or other persons having a legal interest in the relevant area or any part of it, remove all buildings, installations, works, chattels and effects erected or brought by the licensee or lessee upon the relevant area for or in connection with his operations: Provided that, subject as aforesaid, the Minister may specify any such buildings, installations, works, chattels or effects, and shall then be entitled to take the same at a price bearing a reasonable relationship to the written down value thereof.
- (4) Where a licence or lease is surrendered as regards a part of the relevant area, it shall be deemed for the purposes of this regulation to have terminated as regards that part of the relevant area.

Reg. 46 of the Petroleum Drilling and Production Regulations is all about what a licensee or lessee should do when his licence terminates. In sum, he is required to restore the environment to as near as possible the state he met it. What he is required to do on abandonment by Reg. 36 is what he is required to do on termination of his licence or lease. In this regulation, surrendering of a licence or lease has the effect of terminating it. This being the case, what a licensee or lessee with a terminated licence or lease has to do on termination of his licence or lease a licensee or lessee who surrenders his licence or lease would have to do.

Termination of a licence or lease in the sense discussed above is the coming to an end of a licence or lease after it has achieved its objectives. A licence or lease may however be terminated by the licensee or lessee when it has not accomplished its objectives. In this regard paragraph 18 (1) of the first schedule to the Petroleum Act provides that the holder of an oil prospecting licence or oil mining lease may, at any time, terminate his licence or lease by giving to the Minister not less than three months' notice in writing to that effect. Where notice is given under this paragraph, no rent paid shall be refundable, and the termination shall otherwise be without prejudice to any obligation or liability imposed by or incurred under the licence or lease before the effective date of termination.¹⁷

Records of Boreholes and Wells

Reg. 49 provides for boreholes and wells. It provides thus:

¹⁷ See paragraph 18 (2) of the first schedule to the 1969 Petroleum Act

(1) The licensee or lessee shall keep a record of all boreholes and wells in a form from time to time approved by the Director of Petroleum Resources, and the records shall contain particulars in respect of each borehole or well, as the case may be, of:

- (a) the strata and subsoil through which the borehole or well was drilled and the final depth;
- (b) the elevation of the land or depth of the sea where the borehole was drilled;
- (c) the casing inserted in the borehole or well and any alterations thereto;
- (d) any petroleum, water, mineral deposits or mine workings encountered;
- (e) the results of any analyses, by or on behalf of the licensee or lessee, of any such petroleum, water, mineral deposits or mine workings, or of any other data required to be obtained by or under this regulation;
- (f) logs of all types taken in the well (in every case including a minimum of one resistivity log suite and porosity log suite);
- (g) results of all borehole surveys and tests (including production tests and pressure tests taken or required to be taken on the well); and
- (h) such other matters as the Director of Petroleum Resources may from time to time require.

All records kept pursuant to this provision form part of petroleum operations data the Department of Petroleum Resources needs to stay informed of developments in the industry. For this reason, the Director of Petroleum Resources can require a licensee or lessee to turn over this data to him.

Records of Subsurface Plans, Maps, Charts and Sections

Reg. 55 provides for a licensee or lessee keeping records of subsurface plans, maps, charts, sections and other appropriate geological records. It provides thus:

- (1) The licensee or lessee shall keep accurate geological and subsurface plans, maps, charts, sections and other appropriate geological records (including an estimate, revised to include information obtained up to the end of each calendar year, of the probable reserves and the recoverable amount of petroleum reasonably believed to be present as at the date of estimation or revision in the relevant area), and an extract therefrom or copy thereof shall form part of the annual report required to be furnished by regulation 53 (3) of these Regulations in so far as the information to which it relates has not already been furnished.
- (2) The information required to be included in the annual report by paragraph (1) of this regulation may be submitted as a separate volume of the annual report.
- (3) The licensee or lessee shall furnish to the Director of Petroleum Resources and the Director of Geological Survey such other maps, plans and information as to the progress of operations in the relevant area as they may from time to time

require, including reports on geological and geophysical surveys carried out in the relevant area.

- (4) The licensee or lessee shall submit to the Director of Petroleum Resources copies of every log or borehole survey carried out in any well or borehole as soon as practicable and in any case not more than one month (or such further period as the Director of Petroleum Resources may allow), after running the log or carrying out the survey.
- (5) The licensee or lessee shall submit to the Director of Petroleum Resources all seismograms and copies of all other geophysical records obtained on the relevant area: Provided that-
 - (a) the Director of Petroleum Resources may direct the licensee or lessee to keep the records in his custody; and
 - (b) any such records so kept shall be made available to the Director of Petroleum Resources on demand.
- (6) The results of all seismic surveys, including the relevant seismic map, shall be submitted to the Director of Petroleum Resources.
- (7) The licensee or lessee shall submit to the Director of Federal Surveys the negatives of any aerial photographs taken by the licensee or lessee in the course of his operations; and the said Director shall be entitled to retain the negatives and to make use as he thinks fit of any topographical information obtained from them.
- (8) Negatives surrendered to the Director of Federal Surveys under paragraph (7) of this regulation by the licensee or lessee shall, at all reasonable times and on notice duly given to the Director be made available for inspection by the licensee or lessee at the office of the Director.
- (9) The licensee or lessee shall within three months of the termination of his licence or lease render a report to the Director of Geological Surveys and Director of Petroleum Resources giving :
 - (a) an account of the geology of the relevant area;
 - (b) an account of the stratigraphic and structural conditions, together with geological, structural and other subsurface maps, plans and sections on suitably scaled maps and charts; and
 - (c) a summary of all immovable items, equipment, appliances, structures and the like in the relevant area.
- (10) No information required by these Regulations to be furnished in relation to work done or progress of operations in the relevant area shall be withheld on the grounds that the information is confidential or interpretational.

Transparency required here is not the same transparency required under the Petroleum Industry Bill. Transparency here is between the licensee or lessee with the

Department of Petroleum Resources, while transparency in the Petroleum Industry Bill is between the Upstream Petroleum Inspectorate, the licensee or lessee on one hand and members of the public on the other hand.

Measurement and Weighing of Crude Oil and Natural Gas

Reg. 52 provides for measurement and weighing of crude oil and natural gas. It provides thus:

- (1) The licensee or lessee shall by a method or methods approved by the Director of Petroleum Resources in writing, measure or weigh:
 - (a) all crude oil won and saved and casing-head petroleum spirit recovered from the relevant area; and
 - (b) all natural gas sold.
- (2) The Director of Petroleum Resources or an officer authorized by him shall have the right to be present whenever any such measurement or weighing takes place.
- (3) The Director of Petroleum Resources or any officer authorized by him shall at all times be present when an equipment or appliance for measuring or weighing crude oil or gas is being calibrated, re-calibrated, tested, compared, measured or weighed against a standard approved by the Director of Petroleum Resources; and any such calibration shall be in accordance with accepted methods and procedures previously agreed to by the Director of Petroleum Resources.
- (4) If any measuring or weighing appliance is at any time found to be false or unjust or inaccurate to the extent of more than one per cent:
 - (a) the appliance shall be deemed to have existed in that condition during the period of three months prior to the discovery unless the licensee or lessee can prove to the reasonable satisfaction of the Director of Petroleum Resources that such an error could not have possibly occurred over that period or the period that has elapsed since the last occasion upon which the appliance was examined or tested, whichever is less; and
 - (b) the royalties payable in respect of the period during which the appliance is deemed to have so existed shall be adjusted accordingly.
- (5) The licensee or lessee shall not repair, maintain, or make any alterations in the measuring or weighing equipment or appliances or in the method or methods of measurement or weighing approved by the Director of Petroleum Resources without first informing the Director of Petroleum Resources or his representative; and in every case any such repairs, maintenance or alterations shall be carried out in the presence of the Director of Petroleum Resources or his representative.
- (6) The Director of Petroleum Resources or his representative shall have the right to specify the frequency at which all measuring and weighing instruments shall be

calibrated or tested, and notwithstanding any such specification, may test or demonstrate the accuracy of any appliance or equipment at any time, with or without previous notice to the licensee or lessee.

Accounts and Particulars

Reg. 53 provides for accounts and particulars. It provides thus:

The licensee or lessee shall in respect of the relevant area, in a form from time to time approved by the Director of Petroleum Resources, keep full and accurate accounts of:

- (a) the quantity of crude oil and casing-head spirit won and saved or recovered therefrom;
- (b) the method and result of physical tests made on crude oil;
- (c) the quantity of crude oil and casing-head spirit sold locally or exported and the particulars of the sale and export;
- (d) the quantity of crude oil otherwise disposed of and the manner of its disposal;
- (e) the quantity of natural gas sold and the price at which it has been sold;
- (f) the quantity of crude oil and casing-head spirit used for drilling or pumping to storage or re-injected into a formation;
- (g) the quantity of natural gas used for drilling, for production or as fuel, or re-injected into a formation; and
- (h) such further particulars and statistics relating to the operations as the Director of Petroleum Resources may from time to time require, and shall within one month after the last day of each quarter deliver to the Director of Petroleum Resources an abstract in a form from time to time approved by the Director of Petroleum Resources of the accounts for the quarter ended on that last day, together with a statement in the like form of all royalties payable in respect of the said quarter.

Oil Wells Abandonment

Reg. 36 of the Petroleum Drilling and Production Regulations provide for oil well abandonment. It provides as follows:

- (1) No borehole or existing well shall be re-drilled, plugged or abandoned, and no cemented casing or other permanent form of casing shall be withdrawn from any borehole or existing well which it is proposed to abandon, without the written permission of the Director of Petroleum Resources.
- (2) Every borehole or existing well which the licensee or lessee intends to abandon shall, unless the Director of Petroleum Resources otherwise permits in writing, be securely plugged by the licensee or lessee so as to prevent ingress and egress of water into and from any portion or portions of the strata bored through and

shall be dealt with in strict accordance with an abandonment programme approved or agreed to by the Director of Petroleum Resources.

- (3) Except in an emergency, the Director of Petroleum Resources may in any case direct that no borehole or well may be plugged, or no works be executed, save in the presence of an officer of the Minister of Mines, Power and Steel designated by him.

The Petroleum Industry Bill provides for decommissioning, abandonment, and disposal. It provides that decommissioning, abandonment and disposal shall be done in accordance with good oil field practices and regulations implemented by the Upstream Petroleum Inspectorate.¹⁸ No decommissioning or abandonment shall be done without the approval of the Inspectorate.¹⁹ The Inspectorate shall require the licensee or lessee to provide a plan for the decommissioning and abandonment of a well, project or installation structure, utility and pipeline²⁰ The Inspectorate may recall any licensee or lessee responsible for the decommissioning or abandonment to carry out the decommissioning and abandonment according to good oilfield practices notwithstanding that its licence or lease has expired.²¹ The Inspectorate shall ensure that a list of all petroleum installation structures and pipelines onshore and offshore and their current status is compiled and made available and accessible to the public.²² The Inspectorate shall require a lessee to set up and manage an Abandonment Fund for the purpose of decommissioning, abandonment and disposal. Should the lessee fails to decommission, abandon or dispose of an installation, the Inspectorate may use the Abandonment Fund to do so.²³

¹⁸ See section 204 (1) of the PIB

¹⁹ Ibid section 204 (2)

²⁰ Ibid section 204 (3)

²¹ Ibid section 204 (9)

²² Ibid section 204 (10)

²³ Ibid section 204 (11)

Gas Gathering and Processing

Gas Gathering and Processing Distinguished from Petroleum Mining and Production

In a loose sense, gas is mined and produced like oil. In a strict sense, however, gas is gathered, not produced; processed, not refined. It is oil that is mined and refined. The nature of each resource determines the method of taking it. Natural Gas Gathering Processing System is a system of collecting and processing gas using sophisticated modern technology. Companies in this system gather and process natural gas from oil or coal bed deposition in the case of associated gas¹ or simply pumping the gas from its reservoir in the case of non associated gas.² Once pumped from the ground, it must be processed to remove, ethane, butane, propane, pentane, sulphur and helium. From that point it can be used in its gaseous form or cooled to produce liquefied petroleum gas or liquefied natural gas.

The Petroleum Drilling and Production Regulations made pursuant to the 1969 Petroleum Act were Regulations made with only petroleum production in mind. Gas was something that was encountered in the process of looking for oil and not something set out for from the beginning. Yet, using the term production loosely, the Regulations will cover both petroleum production and gas gathering thereby making both the Petroleum Act and the Petroleum Drilling and Production Regulations apply on both Petroleum production and gas gathering.

Gathering and Processing of Gas by Floating Liquefied Natural Gas Technique

Floating Liquefied Natural Gas (FLNG) is an innovative technology designed to enable the development of offshore gas resources that would otherwise remain untapped due to environmental or economic factors that make it not viable to develop by land based LNG operation. FLNG technology has the following environmental and economic advantages:

- i. Because all processing is done at the gas field, there is no requirement for long pipelines to shore, compression units to pump the gas to shore dredging and jetty construction. Lack of an onshore construction of an LNG processing plant reduces

¹ www.gasgathering.com

² Ibid

the environmental footprint of gas processing. Not constructing an onshore gas processing facility also helps preserve marine and coastal environment. Also environmental disturbances will be minimized during decommissioning because the facility can easily be disconnected and removed before being refurbished and redeployed elsewhere.

- ii. FLNG serves an economic advantage where pumping gas to shore can be prohibitively expensive. As at 2013 the only FLNG facility in the world was being built by shell in Australia and was to be due for completion in 2017.

From an era of gas flaring, Nigeria is speedily moving into a major gas player globally. Projected growth rates in 2013 showed an exponential increase in the nation's gas production. Government policies in the gas sector as at 2013 had instruments that were aimed at increasing the GDP by 10% through increased gas production. Nigerian law, the Petroleum Industry Bill in particular, seeks to further pursue the zero flaring policy while developing an integrated infrastructure strategy that will support the domestic, regional and export gas market.

Storage of Oil and Gas

Storage of Oil

Oil storage is mostly storage of refined petroleum. It is usually stored to ensure security of supply of petroleum to consumers particularly automobile consumers. Usually, petroleum is stored in tank farms or what is popularly called petroleum depots. It is also stored in filling stations themselves.

An oil depot or tank farm is an industrial facility for the storage of oil or petrochemical products and from which these products are usually transported to end users or to further storage facilities. An oil depot has either surface tanks or underground tanks. It also has gantries¹ for the discharge of products into road tankers or other vehicles.

In Nigeria, refined petroleum stored in tank farms or depots is usually transported to the tank farms by pipelines while the one stored in filling stations is transported to the filling stations by road tankers. Depots or tank farms may be located close or far from refineries or where marine tankers can discharge their cargo. Some depots are attached to pipelines from which they draw their supplies. Some are fed by road tankers or by rail tankers.

The operator of a depot must ensure that products are safely stored and handled. There must be no leakage which could damage the soil or the water under it.

Storage of Gas

Gas storage² is principally used to meet load variations.³ Gas may be injected into storage reservoirs during periods of low demand and withdrawn from such storage

¹ Oil depot gantries are either loading gantries, gantry meter or gantry pumps. The loading gantry is a depot installation that is used to load petrol into tankers and to offload it. A gantry meter is used for measuring the volume of petroleum loaded or offloaded. Gantry pumps are used to pump oil for loading into tankers

² Gas storage is often spoken of in the following terms: (i) Total gas storage capacity: This is the maximum volume of natural gas that can be stored at the storage facility. It is determined by several physical factors such as the reservoir volume, and also on the operating procedures and engineering methods used; (ii) Total gas in storage: This is the total volume of gas in storage at the facility at a particular time; (iii) Base gas also referred to as cushion gas: This is the volume of gas that is intended as permanent inventory in a storage reservoir to maintain adequate pressure and deliverability rates throughout the withdrawal season; (iv) Working gas capacity: This is the total gas storage capacity minus the base gas; Working gas: It is the total gas in storage minus the base gas. Working gas is the volume of gas available to the

during periods of peak demand. Gas producers use storage to store any gas that is not immediately marketable. During summer in temperate regions when demand is low, gas is stored and delivered in winter when the demand is high. Other reasons for gas storage include:

- i. Market speculation. Producers and marketers use gas storage as a speculative tool, storing gas when they believe that prices will increase in the future and then selling it when it does reach those levels.
- ii. Insuring against any unforeseen accidents. Gas storage can be used as an insurance that may affect either production or delivery of natural gas. These may include natural factors such as hurricanes, or malfunctioning of production or distribution systems.
- iii. Meeting regulatory obligations. Gas storage ensures to some extent the reliability of gas supply to the consumer at the lowest cost, as required by the regulatory body. This is why the regulatory body monitors storage inventory levels. For instance, under the Nigerian Petroleum Industry Bill, gas producers have a Domestic Gas Supply Obligation. Gas storage can be for the purpose of meeting this obligation.
- iv. Reducing price volatility. Gas storage ensures commodity liquidity at the market centers. This helps contain natural gas price volatility and uncertainty.
- v. Offsetting changes in natural gas demands. Gas storage facilities are gaining more importance due to changes in natural gas demands. First, traditional supplies that once met the winter peak demand are now unable to keep pace. Second, there is a growing summer peak demand on natural gas, due to electric generation via gas fired power plants.

Natural gas is stored in (i) aquifer reservoirs (ii) depleted reservoirs, (iii) salt formation, (iv) LNG storage, (v) pipelines and (vi) Gas storage holders. These various means of storing natural gas will be examined in the order they are referred to.

Depleted Gas Reservoir

These are the most prominent and common form of underground storage. They are the reservoir formations of natural gas fields that have produced all their economically recoverable gas. The depleted reservoir formation is readily capable of holding injected natural gas. Using such a facility is economically attractive because it allows for reuse with suitable modification, which reduces the start-up costs. Depleted reservoirs are also attractive because their geological and physical characteristics have already been studied by geologists and petroleum engineers and are usually well

market place at a particular time; (vi) Physically unrecoverable gas: This is the amount of gas that becomes permanently embedded in the formation of the storage facility and that can never be extracted.

³ Load variation is the changes in weight between two points

known. Consequently, of the three types of underground storage, depleted reservoirs are generally the cheapest and easiest to develop, operate, and maintain.

In order to maintain working pressures in depleted reservoirs, about fifty percent of the natural gas in the formation must be kept as cushion gas. However, since depleted reservoirs were previously filled with natural gas and hydrocarbons, they do not require the injection of gas that will become physically unrecoverable as this is already present in the formation. This provides a further economic boost for this type of facility, particularly when the cost of gas is high. Typically, these facilities are operated on a single annual cycle; gas is injected during the off-peak summer months and withdrawn during the winter months of peak demand.

A number of factors determine whether or not a depleted gas field will make an economically viable storage facility. Geographically, depleted reservoirs should be relatively close to gas markets and to transportation infrastructure – pipelines and distribution systems, which will connect them to the market. Be this as it may, since the fields were at one time productive and connected to infrastructure, distance from market is often not an important factor. Geologically, it is preferred that depleted reservoir formations have high porosity and permeability. The porosity of the formation is one of the factors that determine the amount of natural gas the reservoir is able to hold. Permeability is a measure of the rate at which natural gas flows through the formation and ultimately determines the rate of injection and withdrawal of gas from storage.

Aquifer Reservoir

Aquifers are underground, porous and permeable rock formations that act as natural water reservoirs. In some cases, they can be used for natural gas storage. Usually these facilities are operated on a single annual cycle as is the case with depleted reservoirs. The geological and physical characteristics of aquifer formation are not known ahead of time and a significant investment has to go into investigating these and evaluating the aquifer's suitability for natural gas storage.

If the aquifer is suitable, all of the associated infrastructure must be developed from scratch thereby increasing the development costs compared to depleted reservoirs. Associated infrastructure to be developed include installation of wells, extraction equipment, pipelines, dehydration facilities, and possibly compression equipment. Since the aquifer initially contains water, there is little or no naturally occurring gas in the formation and so some of the gas injected will be physically unrecoverable. As a result, aquifer storage typically requires significantly more cushion gas than depleted reservoirs. Most aquifer storage facilities were developed when the price of natural gas was low and so cushion gas was inexpensive and therefore can be sacrificed. With rising gas prices, aquifer storage becomes more expensive to develop. A consequence of all these factors is that developing an aquifer storage facility is usually time consuming and expensive. Aquifers are generally the least desirable and most expensive type of natural gas storage facility.

Salt formation

Underground salt formations are well suited to natural gas storage. Salt caverns allow very little of the injected natural gas to escape from storage unless specifically extracted. The walls of a salt cavern are strong and impervious to gas.

Once a suitable salt feature is discovered and found to be suitable for the development of a gas storage facility, a cavern is created within the salt feature. This is done by a process known as *solution mining*. Fresh water is pumped down a borehole into the salt. Some of the salt is dissolved leaving a void and the water, now saline, is pumped back to the surface. The process continues until the cavern is the desired size. Once created, a salt cavern offers an underground natural gas storage vessel with very high deliverability. Cushion gas requirements are low, typically about 33 percent of total gas capacity.

Salt caverns are usually much smaller than depleted gas reservoir and aquifer storage facilities. A salt cavern facility may occupy only one over hundred of the area taken up by a depleted gas reservoir facility. Consequently, salt caverns cannot hold the large volumes of gas necessary to meet base load storage requirements. Deliverability from salt caverns is, however, much higher than for either aquifers or depleted reservoirs. This allows the gas stored in a salt cavern to be withdrawn and replenished more readily and quickly. This quick cycle-time is useful in emergency situations or during short periods of unexpected demand surges. Although construction of salt caverns is more costly than depleted field conversions when measured on the basis of dollars per thousand cubic feet of working gas, the ability to perform several withdrawal and injection cycles each year the cost of constructing salt caverns reduces in comparison to the use of depleted reservoirs.

LNG Storage facilities

LNG Storage facilities provide delivery capacity during peak periods when market demand exceeds pipeline deliverability. LNG storage tanks possess a number of advantages over underground storage. As a liquid, it occupies about 600 times less space than gas stored underground, and it provides high deliverability at very short notice because LNG storage facilities are generally located close to markets and can be trucked to some customers avoiding pipeline tolls. There is no requirement for cushion gas and it allows access to a global supply. LNG facilities are, however, more expensive to build and maintain than developing new underground storage facilities.

Pipeline Storage

Gas can be temporarily stored in the pipeline system itself, through a process called line packing. This is done by packing more gas into the pipeline by an increase in pressure. The process of line packing is usually performed during off peak times to meet the next day's peaking demands. This method, however, only provides a temporary short-term substitute for traditional underground storage.

Gas Holder Storage

Gas can be stored above ground in a gasholder (or gasometer), largely for balancing, not long-term storage, and this has been done since Victorian times. Holder storage gas provides extra gas very quickly usually to small districts at peak times. Gasholders are perhaps mostly used in the United Kingdom and Germany. There are two kinds of gasholder — column guided, which are guided up by a large frame that is always visible, regardless of the position of the holder; and spiral guided, which have no frame and are guided up by concentric runners in the previous lift.

Perhaps the most famous gasholder is a large column guided gasholder overlooking the Oval cricket ground in London. Gasholders were built in the United Kingdom from early Victorian times; many, such as Kings Cross in London and St. Mark's Street in Kingston are very old. Their construction predated the use of welding in construction.

Deliverability for any of the above means of gas storage depends on several factors including the amount of gas in the reservoir and the pressure etc. Generally, a storage facility's deliverability rate varies proportionate to the total amount of gas in the reservoir. It is at its highest when the reservoir is full and declines as gas is withdrawn. The injection capacity of a storage facility also varies and depends on factors similar to those that affect deliverability. The injection rate varies inversely with the total amount of gas in storage. It is at its highest when the reservoir is nearly empty and declines as more gas is injected. The storage facility operator may also change operational parameters. This would allow, for example, the storage capacity maximum to be increased.

Future of Gas Storage Technology

Research is being conducted on many fronts in the gas storage field to help identify new improved and more economical ways to store gas. Research being conducted by the US Energy department is showing that salt formations can be chilled allowing for more gas to be stored.⁴ This will reduce the size of the formation needed to be treated and salt to be extracted from it. This will lead to cheaper development costs for salt formation storage facility type. Another aspect being looked at are other formations that may hold gas. These include hard rock formations such as granite, in areas where such formations exists. In Sweden, a new type of storage facility has been built called *lined rock cavern*.⁵ This storage facility consists of installing a steel tank in a cavern in the rock of a hill and surrounding it with concrete. Although the development cost of such facility is quite high, its ability to cycle gas multiple times compensates for the expense. Finally, another research project is that of hydrates. Hydrates are compounds

⁴ www.ecopint.com/.../gasstoragetechnology, visited 9/8/2013

⁵ Lined rock cavern is an innovative concept for underground high-pressure storage of natural gas. The lined rock cavern in Sweden as at 2013 was the only one of its kind in the world.

formed when natural gas is frozen in the presence of water. The advantage of this storage facility is that as much as 181 standard cubic feet of natural gas could be stored in a single cubic foot of hydrate.⁶

By its nature, storage and transportation of natural gas present formidable problems. It is therefore understandable why a lot of energy and resources go into developing various means of gas storage.

⁶ Hydrate is a term used in organic and inorganic chemistry to indicate that a substance contains water.

Transportation of Crude Oil and Gas

Transportation of Crude Oil

Whether for export or for the local refineries, crude oil must be transported through vessels, ships, tankers or pipelines. In countries with good and reliable rail transportation, crude oil is transported by rail route either to the refineries or to export market. Currently Nigeria does not have a modern rail network system. So crude oil is not transported by rail. Rather the nation relies mainly on pipelines and oil tankers.

Transportation of crude oil by pipelines is mostly within the country while by ocean tankers outside the country. The Nigerian 1956 Oil Pipelines Act provides for the construction of oil and gas pipelines while the Oil and Gas Pipelines Regulations made pursuant to the Act specify the modalities of laying the pipelines and their quality.

Oil Pipelines Survey Permit

Section 4 of the Oil Pipeline Act¹ provides for oil pipelines survey permit. It provides that:

- (1) Any person may make an application to the Minister in accordance with the provisions of this Act and of any regulations made thereunder for the grant of a permit to survey the route for an oil pipeline for the transport of mineral oil, natural gas, or any product² of such oil or such gas to any point of destination to which such person requires such oil, gas or product to be transported for any purpose connected with petroleum trade or operations.
- (2) Every application for a permit to survey shall specify the approximate route or alternative routes proposed.

¹ Oil pipeline means a pipeline for the conveyance of mineral oils, natural gas and any of their derivatives or components, and also any substance (including steam and water) used or intended to be used in the production or refining or conveying of mineral oils, natural gas, and any of their derivatives or components.

² Any product in this provision will likely be any by-product of oil and gas. Such by-product is usually gotten from refining of oil or processing of gas. Except for Floating Liquefied Natural Gas which is processed where the gas is gathered, such by-products would rarely be transported from oil and gas production points.

- (3) The Minister may -
- (a) grant the permit to survey on payment of the fees require by the Act³ to be paid by the applicant on the submission of the application and on grant of the permit to survey respectively; or
 - (b) for reasons which to him appear sufficient, refuse to grant the permit to survey.
- (4) If the Minister refuses to grant the permit to survey, he shall notify the applicant in writing of such refusal and the reasons therefor.

Perhaps it would have been more effective for the permit to survey to be granted by the Department of Petroleum Resources instead of the Minister since the Department of Petroleum Resources eventually takes charge of compliance with permit provisions by licensees or lessees. What is more, permit is usually a lower authority issue which the Department of Petroleum Resources is, while licence is a high authority issue which the Minister is.

Section 5 (1) provides that a permit to survey shall entitle the holder, subject to the provision of section 6 of this Act, to enter together with his officers, agents, workmen and other servants and with any necessary equipment or vehicles, on any land upon the route specified in the permit or reasonably close to such route for the following purposes -

- (a) To survey and take levels of the land;
 - (b) To dig and bore into the soil and subsoil;
 - (c) To cut and remove such trees and other vegetation as may impede the purposes specified in this subsection; and
 - (d) To do all other acts necessary to ascertain the suitability of establishment of an oil pipeline or ancillary installations, and shall entitle the holder, with such persons, equipment or vehicles as aforesaid to pass over land adjacent to such route to the extent that such may be necessary or convenient for the purpose of obtaining access to land upon the route specified.
- (2) The Minister may, upon application by the holder of a permit to survey, vary the route specified in such permit, but such variation shall not invalidate or make illegal any act done by the holder pursuant to the permit prior to such variation, nor prejudice the rights of any person under this Act with reference to any act done by the holder pursuant to the permit prior to such variation.

Section 6 (1) Except with the previous consent of the owner or occupier no person shall under the authority of section 5 of this Act enter any building or upon any enclosed court or garden attached to any building, without having given the

³ The Act requires the payment of ₦20,000 to submit an application for a permit to survey, and ₦50 on the grant of the permit. It requires payment of ₦50 submitting an application for a licence to lay a pipeline and ₦200 for being granted a licence. See section 31 of the Act

owner or occupier at least fourteen days' notice of his intention to do so, nor enter upon any cultivated land without having given such notice to the owners or occupiers thereof or having affixed some prominent position upon such land.

- (2) No person shall under the authority of section 5 of this Act enter any of the lands described in section 15 of this Act except with the prior assent of the owners or occupiers or persons in charge of such lands.
- (3) The holder of a permit to survey acting under the authority of section 5 of this Act shall take all reasonable steps to avoid unnecessary damage to any land entered upon and any buildings, crops or profitable trees thereon, shall make compensation to the owners or occupiers for any damage done under such authority and not made good.
- (4) In the event of dispute as to the amount of compensation to be paid or who to pay it to, a magistrate exercising civil jurisdiction in the area shall determine both issues.⁴

The Oil Pipeline Regulations 1995 made pursuant to the Oil Pipelines Act provides that no Oil Pipeline licence shall be granted or renewed unless the route of the pipeline has been surveyed, or in the case of renewal, the pipeline has been re-surveyed.⁵ No survey or re-survey shall be carried out unless a permit to survey has been obtained.⁶

An application for a permit to survey shall be accompanied with ten copies of the topographical map of the proposed route of the pipeline drawn to scale:

- (a) 1:50,000 for a pipeline that is not more than fifty kilometres long
- (b) 1:100,000 for a pipeline that is over fifty kilometres but not more 100 km long;
- (c) 1:250,000 for a pipeline that is over a 100 km long.⁷

An application for licence to construct a pipeline should be made during the validity of a permit to survey. The application should be accompanied by

- (a) statement indicating:
 - i. The services to be rendered by the pipeline;
 - ii. The specification of the pipeline;
 - iii. The characteristic of the fluids to be conveyed through the pipeline; and
 - iv. The total estimated cost for the construction of the pipeline.⁸
- (b) A survey description in accordance with Nigerian National Grid of the total route of the pipeline, indicating the width of the right of way, with the coordinates of the various points of intersection;
- (c) Ten copies of the plan of the pipeline showing:

⁴ See section 19 of the Oil Pipelines Act.

⁵ See Reg. 1 (1) of the Oil and Gas Pipeline Regulations.

⁶ Ibid Reg. 1 (2)

⁷ See Reg. 1 (3)

⁸ Ibid Reg. 2 (2)

- i. The proposed route of the pipeline marked in red and the sections and quarter sections;
 - ii. The wall thickness of the pipeline material and the type and grade of the pipeline and the designed maximum operating pressure;
 - iii. The direction of fluid flow along the pipeline;
 - iv. The location, shown by symbols, of any installation along the pipeline;
 - v. The location of the points at which the new pipeline will cross any other pipeline, stating the owner of the pipeline being crossed;
 - vi. The relative position of any existing pipeline in the same right of way with the new pipeline;
 - vii. Any pipeline within a 100 meters of the new pipeline, stating the owner of that pipeline;
 - viii. The regional topography of the area along the pipeline route, within a distance of a 100 meters on both sides, including any watercourse the new pipeline would cross;
- (d) Two copies of the plan of the pipeline showing:
- i. The location of any anchor or expansion
 - ii. The location and operating details of corrosion prevention devices, main line valves and any emergency shutdown devices
 - iii. The pig⁹ at launching and receiving points and any tie-in¹⁰ points with operating details
- (e) A hydraulic profile¹¹ of the pipeline indicating the position of any pumping or booster station;¹²
- (f) The ancillary facilities along the pipeline or at its terminal ends, including compressor stations¹³, manifolds and meter banks¹⁴, giving a general description of each facility and its proposed operation parameter; and

⁹ Pigging in the context of pipelines refers to the practice of using pipeline inspection gauges called pigs to perform various maintenance operations on a pipeline. This is done without stopping the flow of the product in the pipeline. This is accomplished by indenting the pig into a pig launcher or launching station (a panel shaped Y) in the pipeline. The launcher or launching station is then closed and the pressure driven flow of the product in the pipeline is used to flush it down the pipe until it reaches the receiving trap (the pig catcher or receiving station)

¹⁰ A tie-in is one thing that is related to or connected with another such that to obtain one thing implies obtaining the other. In sales of commodities, a tie-in is a product a consumer must buy for the seller to sell to him the commodity he actually desires.

¹¹ A hydraulic profile is the outline of machines and tools that use liquid fluid power to do simple work.

¹² A booster station is an amplifier for restoring the strength of a transmitted signal.

¹³ A compressor station is a facility which helps the transportation process of natural gas from one location to another. Natural gas when being transported through a gas pipeline needs to be constantly pressurized at intervals of 40 to 100 miles.

- (g) Two copies of the plan and profile of the pipeline, indicating the manner the new pipeline would cross any highway, railroad, waterway or any other pipeline along the route.

Restrictions on the Survey Permit

A survey permit granted under Section 4 of the Oil Pipelines Act is not a general licence for the holder to enter upon any building or enclosed court or garden attached to the building. Accordingly the holder is required under Section 6 of the Act to give the owner or occupier of such building at least 14 days notice of his intention to enter upon such premises. The same provision affects cultivated land. In the same vein, a holder of a survey permit shall not enter upon any land or take possession or use of same, if it is a place of veneration. Venerated land is one, which the owners or occupiers hold with deep affection from generation to generation. Nigerian law recognizes this, and protects such places against economic and industrial activities of man. Thus section 15 of the Oil Pipelines Act provides that unless prior consent of the owners or occupiers has been given, no holder of a permit or oil pipeline licence can enter any land occupied by any burial ground or cemetery, and any land containing grave, grotto, tree or anything considered sacred.

Oil Pipeline Licence

Section 7. (1) of the Oil Pipelines Act provide for oil pipeline licence. It provides that the holder of a permit to survey may make an application to the Minister in accordance with the Provisions of this Act and of any Regulations made thereunder for the grant of an oil pipeline licence in respect of any oil pipeline the survey of the route for which has been completed by the applicant.

- (2) The Minister may:
 - (a) Grant the licence on payment of the fees required by section 31 of this Act to be paid by the applicant on the submission of the application and the grant of the licence respectively; or
 - (b) For reasons which the Minister considers sufficient, refuse to grant the licence.
- (3) If the Minister refuses to grant the licence, he shall notify the applicant in writing of such refusal and the reasons therefor.
- (4) No person other than the holder of a licence shall construct, maintain or operate an oil pipeline.

¹⁴ A meter bank is a unit in a pipeline that measures and records the quantity of oil or gas that passes through the pipeline.

- (5) Every person who acts in contravention of subsection (4) shall be guilty of an offence and shall be liable on conviction to a term of imprisonment not exceeding two years or to a fine not exceeding one thousand naira or to both such imprisonment and such fine. Due to the erosion of the value of the naira, the fine stipulated by this provision has in the course of time become meaningless.
- (6) The Minister may require any person who is convicted of an offence under this section to have the pipeline in respect of which the offence was committed and any ancillary installation removed to the extent that the Minister does not elect to purchase such pipeline or any such installation or any part thereof. If the Minister elect to purchase the pipeline and there is failure to agree on the purchase same shall be determined by arbitration.
- (7) An offender who is required by the Minister under subsection (6) of this section to have a pipeline or any ancillary installation removed shall make good any damage done to any land by such removal.
- 8) (1) An applicant for a licence shall deliver to the Minister an application stating the terminal points and giving a description accompanied by a plan of the proposed route of the pipeline sufficient to identify the land affected thereby and the position of any pumping stations, tanks or other ancillary installations. The Minister shall upon receiving the application appoint a date not less than six weeks ahead for the hearing of objections, if any, and shall nominate the person or persons by whom and the place or places at which any such objections shall be heard, and shall thereupon cause a notification of such date and other particulars and of the places at which objections shall be lodged to be made in the *Federal Gazette* of each State concerned.

Notice of Application for Pipeline Licence

Section 8 (2) of the Oil Pipelines Act provides for notice of application for pipeline licence. It provides that before or upon application being made in accordance with this section, notice of the application shall be given by the applicant in the following manner:

- (a) By publication thereof in the State Gazette of each State through which the route of the projected pipeline passes;
- (b) As the Minister may require, publication thereof in such newspapers circulating in the areas through which the route of the projected pipeline passes;
- (c) By posting or delivering the pipeline licence application to the following persons carrying on operations in the area which would be affected by the grant of the licence:

- (i) Holders of exclusive prospecting licences, mining rights, oil exploration licences, and oil prospecting licences,
- (ii) Lessees of mining leases, temporary mining leases or oil mining leases,
- (d) By publication in areas likely to be affected by the licence in such other manner as the Minister may direct, and by delivering to administrative officers having responsibilities in such area or to such other officers as the Minister may specify such numbers of copies of such notice as the Minister may require for distribution to the occupiers or owners of land in the areas to be affected by the pipelines who might not otherwise become aware of such notice.
- (4) Such notice shall contain a description of the proposed pipeline and its route and the proposed ancillary installations and shall set out a list of places and times at which copies of a plan sufficient to identify the land affected thereby may be inspected, and each copy of such notice shall require that objections (if any) shall be made at least seven days before the date appointed by the Minister for the hearing of objections and shall be delivered at the places to be appointed by the Minister for such lodgment.

It is worth noting at this juncture that, although, the Land Use Act in section 1 vests all in a state in the Governor of the state, it did not thereby extinguished the surface rights of land owners and occupiers of land before it was passed. Such persons' surface rights are intact. It is because of this fact that they remained in possession of the land after the enactment of the Land Use Act. Where they have not acquired a certificate of occupancy, the Land Use Act treats them as enjoying Deemed Rights of Occupancy.¹⁵ It is the bundle of rights such owners and occupiers enjoy over their lands, that they are entitled to expel anyone who trespasses into their lands without their consents and also entitle them to compensation if their rights are adversely affected by a third party. Thus if an oil prospecting licensee or an oil mining lessee is required to pay compensation under paragraph 36 of the first schedule to the Petroleum Act, and Regulation 17 (1) of the Petroleum Drilling and Production Regulations, such compensation will be paid to the landowner. On the same score, such land owner is entitled to object to an application for a pipeline licence.

Objections to Application for Pipeline Licence and Hearing of Objections

Section 9 and 10 of the Oil Pipelines Act provides for objections to applications for pipeline licence and hearing of objection. Section 9 provides that:

- (1) Any person whose land or interest in land may be injuriously affected by the grant of a licence may within the period specified for objections lodge verbally or in writing at one of the specified addresses notice of objection stating the interest of the objector and the grounds of objection.

¹⁵ See section 34 and 36 of the Land Use Act CAP 202 Laws of the Federation of Nigeria 1990

- (2) Matters relating to quantum of compensation shall not be material grounds to include in a notice of objection under this section.
- (3) It shall be the duty of any public officer who receives a verbal objection in the course of his duties to record the name and address of the person making the objection, his interest and grounds of objection.

Section 10 (1) provides that upon the date fixed for the hearing of objections, the persons appointed by the Minister to hear the objection shall inquire into all objections, giving all parties concerned an opportunity to be heard, and report the hearing to the Minister without delay.

- (3) If, after consideration of the report, the Minister considers that the licence should be granted, he shall inform the applicant accordingly, but if the Minister considers that a licence should not be granted in respect of the proposed route or any part of it, he shall so inform the applicant and the objector or objectors concerned, and thereupon the applicant shall be entitled to receive a permit to survey such other route or routes as he may propose or to submit an application for a licence in respect of another route.

Rights, Powers and Liabilities of an Oil Pipeline Licensee

Sections 11, 13, 14, 15 and 16 of the Oil Pipelines Act provide for rights, powers and liabilities of an oil pipeline licensee. Section 11 provides that:

- (1) A licence shall entitle the holder, his officers, agents, workmen servants with any necessary equipment or vehicles, to enter upon, take possession of or use a strip of land of a width not exceeding two hundred feet or of such other width or widths as may be specified in the licence and upon the specified in the licence, construct, maintain and operate an oil pipeline and ancillary installations.
- (2) The power to construct, maintain and operate an oil pipeline shall include a power to construct, maintain and operate on the route of such pipeline all other installations usually referred to as "ancillary installations" that are ancillary to the construction, maintenance and operation of such pipeline, including roadways, telephone and telegraph lines, electric power cables, pumping stations, storage tanks and loading terminal.
- (3) The holder of a licence shall have power to dig and get free of charge any gravel, sand, clay, stone or other similar substance that are not minerals within the meaning of the Minerals Act in any land within the area covered by the licence to the extent that such gravel, sand, clay, stone or other substance, will facilitate the construction or maintenance of a pipeline or any ancillary installation.
- (4) The holder of a licence shall pay compensation -
 - (a) to any person whose land or interest in land (whether or not it is land in respect of which the licence has been granted) is injuriously affected by the

exercise of the rights conferred by the licence, for any such injury not otherwise made good;

- (b) to any person suffering damage by reason of any neglect on the part of the holder or his agents, servants or workmen to protect, maintain or repair any work structure or thing executed under the licence, for any such damage not otherwise made good; and
 - (c) to any person suffering damage (other than on account of his own default or on account of the malicious act of a third person) as a consequence of any breakage of or leakage from the pipeline or an ancillary installation, for any such damage not otherwise made good.
- (5) If the amount of such compensation is not agreed between any such person and the holder, it shall be fixed by a court named by the oil Pipelines Act as a station magistrate.
- (6) For the removal of doubt it is hereby declared that the powers granted to the holder of a licence under this Act shall be exercisable only subject to the provisions of this Act and of any other enactment or rule of law.

Section 13. (1) A right to make a deviation from the route specified in the licence may be granted at any time by the President either by amendment of the licence or by a new licence, provided that where the Minister thinks fit, the Minister may approve in respect of minor deviations an agreement reached between the holder of the licence and any person or persons whose land or interest in land may be injuriously affected by such minor deviations.

- (1) The grant of the right to make a deviation under this section shall not invalidate or make illegal any act done by the holder of the licence prior to such grant, nor prejudice the rights of any person under this Act with reference to any act done by the holder prior to such grant.
- (2) It shall be lawful for the Minister to require deviation of the route of an oil pipeline so far as it affects any land for a public purpose by the Government of the federation or state government upon such terms as to compensation, or otherwise, as shall be agreed with the holder or failing such agreement as may be arrived at by arbitration.

Section 14. A licence shall not, except so far as may be expressly permitted by the terms of the licence, authorize the holder to:

- (a) construct or operate any pipeline upon any land which is the site of or is within fifty yards of any public road, dam, reservoir or building belonging to or occupied by the Federal or a State Government or Local Government, or upon

any land appropriated for any railway or situate within one hundred meters of any railway; or

- (b) make such alteration in the flow of water in any navigable waterway, or construct such works in, under or over any navigable waterway, as might obstruct or interfere with the free and safe passage of vessels, canoes or other craft; or
- (c) construct such works in, under or over, or deposit such material in or make such alteration in the flow of water required for domestic, industrial or irrigational use as would diminish or restrict the quantity of water available for such purpose, or construct such works or make such deposit in any waterway as would cause flooding or erosion,

Section 15. (1) A licence shall not authorise any person to enter upon, take possession of or use any of the following lands unless the owners or occupiers or the persons in charge thereof have given their prior assent: -

- (a) any land occupied by any burial ground or cemetery;
 - (b) any land containing any grave, grotto area, tree or thing held to be sacred or the object of veneration.
- (2) If any doubt shall arise whether any lands fall within those described in this section, or who the owners or occupiers or persons in charge thereof are, the decision of the High Court shall be final.

Section 16. (1) The holder of a licence shall make and maintain for the accommodation of the owners or occupiers of any land in respect of which the licence has been granted or of the Owners or occupiers of adjoining land or for the accommodation of the users of any customary track or path such crossing, bridges, culverts, drains or passages as may be necessary for the purpose of making good any interruption to the use of such land or the amenities thereof or to the use of such customary track or path caused by the exercise of the powers granted in accordance with the Oil Pipeline Act; provided that it shall not be necessary to make good any interruption in respect of which compensation has already been paid:

- (2) The holder of a licence may for the purpose of exercising the powers conferred upon him alter the level or position of any pipe, conduit, watercourse, drain, or electric, telephone or telegraph wire or post, but shall give reasonable notice of his intention so to do to the person in control thereof and shall execute the work to the reasonable satisfaction of the person.
- (3) Where there is a danger that a tree standing near an oil pipeline may fall and damage such pipeline or an ancillary installation, the holder of the licence may after giving notice to an administrative officer having responsibility in the area

fell the tree or otherwise deal with it, and in such event shall upon application by any person interested in the tree pay such compensation as such officer shall consider necessary.

Duration and Contents of an Oil Pipeline Licence

Section 17 of the Oil Pipelines Act provides for duration and contents of an oil pipeline licence. It provides thus:

- (1) Licence may be granted for such period not exceeding twenty years as the Minister may direct; and
- (2) Nothing in subsection (1) of this section shall affect the validity of any licence granted before the commencement of this Act for a period exceeding twenty years and every such licence shall, unless earlier revoked, be valid for the period for which it was granted.
- (3) The holder of a licence may at any time during the term of the licence determine the licence in respect of all or any part of the land included therein by giving to the Minister not less than three months previous notice in writing to that effect.
- (4) Every oil pipeline licence shall contain a provision concerning public safety, the avoidance of interference with works of public utility in, over and under the land and prevention of pollution of land or waters.
- (5) In the absence of express provision to the contrary, a licence shall be deemed to include the following conditions to be performed and observed by the holder -
 - (a) to commence the construction of an oil pipeline within a period to be specified by the Minister and to complete the same and all necessary ancillary installations with reasonable dispatch, and to maintain the same during the currency of the licence;
 - (b) to allow free access to any public officer authorized by or on behalf of the Minister in writing, to enter and inspect any work, structure or thing made or done in accordance with the licence;
 - (c) to indemnify the Minister against any claims arising from injury to any person or damage to any public or private property as a result of any act or thing done by the holder of the licence or his agents, servants or workmen in accordance with the licence;
 - (d) not to assign, sublet, mortgage or otherwise part with the licence or any right or Interest thereunder without the previous consent in writing of the Minister.
- (5) Every licence shall be deemed to include a provision that any question dispute arising between the President or the Minister and the holder of the licence

regarding the licence or any matter connected therewith shall if it cannot be resolved by agreement be referred to arbitration.

Application to use Oil Pipeline by a Non-Owner

Section 18 of the Oil Pipelines Act provides for application to use oil Pipeline by a non-owner of the pipeline. It provides that:

- (1) An application may be made to the Minister with respect to any pipeline constructed, maintained and operated pursuant to a licence granted under the Oil Pipelines Act by any person other than the owner of the pipeline who seeks a right to have conveyed by the pipeline on his behalf any of the things mentioned in subsection (2) of section 11 of this Act which the pipeline is designed to convey.
- (2) Every such application shall be made in the prescribed manner and form containing the prescribed particulars.
- (3) The Minister shall consider every such application in consultation with the applicant and the owner of the pipeline to which the application relates.
- (4) If upon such consideration the Minister is satisfied that the pipeline could, without prejudice to the proper and efficient operation thereof for the purpose of the conveyance on behalf of the owner, in the quantity required by him, of the thing which it is designed to convey, be so operated as to permit the conveyance thereby on behalf of the applicant of the thing the right to the conveyance of which is sought by the applicant, the Minister shall declare that he is so satisfied.
- (5) Subject to the subsequent provisions of this section, the condition of the use of the pipeline by the applicant may be determined by agreement between the owner and the applicant and, failing such agreement, shall, subject as aforesaid, be determined by the Minister.
- (6) Where the Minister makes under subsection (4) of this section a declaration with regard to a pipeline, he may by notice served on the owner, impose such requirements as he thinks it necessary or expedient to impose for all or any of the following purposes, namely:
 - (a) securing to the person whose application resulted in the making of the declaration the right to have conveyed by the pipeline the thing to which the application related. However, such thing to be conveyed shall not prejudice the proper and efficient operation of the pipeline by the owner.
 - (b) regulating the charges to be made for the conveyance of such thing by the pipeline owner;
 - (c) securing that the exercise of a right secured by virtue of paragraph (a) of this subsection is not prevented or impeded,

- (7) A notice served on the owner of a pipeline under subsection (6) may authorize such owner to recover, from the person to whom a right is secured by the notice under paragraph (a) of subsection 5 of this section, payments of such amounts as may be determined in accordance with provisions in that behalf contained in the notice, being payments in consideration of the rights being secured for such person.
- (8) If the owner of a pipeline fails to comply with a requirement imposed by a notice served on him under subsection (6) of this section with reference to the pipeline, he shall be guilty of an offence and liable on summary conviction to a fine not exceeding one thousand naira; and, if the failure continues after his conviction he shall be guilty of a further offence and liable, in respect thereof, to a fine not exceeding fifty naira for each day the failure continues.
- (9) The Minister may by notice to the owner of a pipeline whose failure to comply with any such requirement as aforesaid continues after his conviction of a first offence under subsection (8) of this section revoke the licence of such owner.

Compensation

Sections 19, 20, 21, 22 and 23 of the Oil Pipelines Act provides for compensation for persons injured by the laying of oil pipeline. Below are the provisions of the mentioned sections:

Section 19 provides that if there be any dispute as to whether any compensation is payable under any provision of this Act or, as to the amount thereof, or as to the persons to whom such compensation should be paid, such dispute shall be determined by a station magistrate exercising civil jurisdiction in the area concerned if such magistrate has in respect of any other civil matter monetary jurisdiction of at least as much as the amount of compensation claimed if there be no such magistrate, by the High Court exercising jurisdiction in the area concerned notwithstanding the provisions of any other Act or law; provided that nothing in this Act shall be deemed to confer power upon a magistrate to exercise jurisdiction in a matter raising any issue as to title to land or as to title to any interest in land.

Section 20 provides that (1) if a claim is made for damages to land, building or crops against a pipeline owner, the court shall award such compensation as it considers just in respect of any damage done to any buildings, crops or profitable trees by the holder of the permit in the exercise of his rights thereunder and in addition may award such sum in respect of disturbance (if any) as it may consider just.

- (2) If a claim is made for injury to land or interest in land, the court shall award such compensation as it considers just having regard to -
 - (a) any damage done to any buildings, crops or profitable trees by the holder of the licence in the exercise of the rights conferred by the licence;
 - (b) any disturbance caused by the holder in the exercise of such rights;

- (c) any damage suffered by any person by reason of any neglect on the part of the holder or his agents, servants or workmen to protect, maintain or repair any work, structure or thing executed under the licence;
 - (d) any damage suffered by any person (other than as a consequence of any breakage of or leakage from the pipeline or an ancillary installation; and
 - (e) any loss in value of the land or interests in land by reason of the exercise of the rights as aforesaid. Any compensation under subsection 2 of this section shall be awarded reflecting any compensation already awarded under subsection 1.
- (3) In determining the loss in value of land or interests in land of a claimant, the court shall assess the value of the land or the interests injuriously affected at the date immediately before the grant of the licence and shall assess the residual value to the claimant of the said land or interests consequent upon and at the date of the grant of the licence and shall determine the loss suffered by the claimant as the difference between the values so found, if such residual value is a lesser sum.
- (4) No compensation shall be awarded in respect of unoccupied land as defined in the Land Use Act, except to the extent and in the circumstances specified in that Act.¹⁶
- (5) In determining compensation in accordance with the provisions of this section, the court shall apply the provisions of the Land Use Act¹⁷ so far as they are applicable and not in conflict with anything in this Act as if the land or interests concerned were land or interests acquired by the President for a public purpose.
- (6) If the total sum awarded by the court in accordance with this section exceeds an amount already offered to the claimant by the holder of the licence, the court may order such holder to pay the costs of the proceedings; and if the sum so awarded does not exceed the amount offered by such holder, the court shall either order the claimant to pay the cost of the proceedings or order each side to bear its own costs.
- (7) Compensation (if any) awarded by the court in accordance with this section shall be a sum of money payable forthwith or shall consist of periodical instalments or partly one and partly the other, provided that nothing contained in this subsection shall preclude the court awarding additional compensation upon subsequent application if loss or damage from the operation of the oil

¹⁶ Section 29 (1) of the Land Use Act

¹⁷ Ibid section 29 (2)

pipeline be proved and the court is of the opinion that such loss or damage is loss or damage not contemplated at the date of the original award.

Section 21 provides that where the interests injuriously affected are those of a local community, the court may order the compensation to be paid to any chief, headman or member of that community on behalf of such community or that it be paid in accordance with a scheme of distribution approved by the court or that it be paid into a Fund to be administered by a person approved by the court on trust for application to the general, social or educational benefit and advancement of that community or any section thereof.

Section 22 provides that if any question arises respecting the title to the lands affected under this Act, the parties in possession as being the owners thereof, or in receipt of the rents of such lands as being entitled thereto at the time of service of notice shall be deemed to have been lawfully entitled to such lands, unless the contrary be shown to the satisfaction of the court, and they and all parties claiming under them or consistently with their possession shall be deemed entitled to any compensation payable under this Act, but without prejudice to any subsequent proceedings against such parties at the instance of any person claiming to have a better right thereto.

Section 23 provides that the payment to any person to whom any compensation shall be paid or the payment into court of any compensation upon a decision of the court shall effectually discharge the person making such payment from any liability to any person claiming to be entitled to the compensation.

Hindering or Obstructing Entering or Taking Possession of Land Pursuant to an Oil Pipeline Licence

Sections 24 and 25 of the Oil Pipelines Act provide for hindering, obstructing entering or taking possession of land pursuant to an oil pipeline licence.

Section 24 provides that if any person hinders or obstructs any person duly authorized in accordance with the provisions of this Act from entering upon or from taking possession of or using any lands pursuant to an oil pipeline licence granted under this Act, the person so hindered or obstructed may apply ex parte at any time to the High Court exercising jurisdiction in the area for a writ of possession and such court may issue a writ of possession addressed to the sheriff under which any officer of the sheriff or police officer may forthwith eject any person so withholding possession.

Section 25 provides that every person who shall wilfully hinder or obstruct any person duly authorized from entering upon or taking possession of or using any land in pursuance of the provisions of, this Act, or who shall molest, hinder or obstruct such person when in possession of such lands, or shall hinder or obstruct any officer of the sheriff or police officer when executing a writ of possession, shall be liable on summary conviction to a fine of fifty naira or to imprisonment for three months.

Breach of Oil Pipeline Licence

Sections 27 and 28 of the Oil Pipelines Act provide for breach of oil pipeline licence. The two sections respectively provide thus:

Section 27(1) If there shall be a breach of any of the terms or conditions upon which a licence has been granted, the Minister may by notice in writing require the holder of the licence to remedy such breach within such period being not less than three months as may be specified in such notice.

- (2) If the holder of the licence shall fail within the period so specified to remedy such breach, the Minister may by notice to the holder revoke the said licence, without prejudice to anything lawfully done thereunder and without prejudice to any claims for compensation against the holder made in accordance with the provisions of this Act.

Section 28 (1) Upon the expiration or determination of a licence, the holder of the licence shall before or within three months after the termination of such licence be at liberty upon giving three weeks notice to the Minister to remove such pipeline and any ancillary installation to the extent that the Minister does not elect to purchase such pipeline or any such installation or any part thereof. If the Minister elects to purchase the oil Pipeline, but there is dispute on the price between the Minister and the owner of the Pipeline, the dispute shall be determined by arbitration.

Usually Production Sharing Contract agreements between NNPC and International oil corporations provide that equipments bought by such corporations pursuant to the PSC agreement shall belong to NNPC and the cost of the equipment may be treated as part of operating cost. If an oil pipeline is part of such equipment, the issue of the Minister of Petroleum purchasing it will not even arise. Be this as it may, it is worth noting that ownership of petroleum assets by NNPC makes it easy for international oil corporations to divest FDIs. While ownership of petroleum assets by the Nigerian government is generally seen as good for local content, it has the drawback of making it easy for IOCs to sell their Foreign Direct Investments (FDIs) and go somewhere else, action that can spark capital flight which can ruin an economy.

- (2) The holder of a licence shall make good any damage done to the land included in the licence by removal of a pipeline or ancillary installation.

Breach of the Oil Pipeline Act by a Body Corporate

Section 32 of the Oil Pipeline Act provides for breach of the Act by a body corporate. It provides that where an offence under this Act committed by a body corporate is proved to have been committed with the consent or connivance of or is attributable to any neglect on the part of any director manager, secretary, or other similar officer of the body corporate, or any person purporting to act in any such capacity, he, as well as

the body corporate, shall be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

The above section provides for lifting the veil against principal officers of the corporation, something difficult to do in practice. Nevertheless, it is a salutary provision particularly for land owners through whose lands oil pipelines are laid.

Reg. 2 (3) of the Pipeline Regulations provides that no licence to construct a pipeline shall be granted or released unless a list of the construction companies being considered for the construction work has been submitted and approved by the Department of Petroleum Resources. This is to ensure that the pipeline is constructed by a company with a proven capacity to construct good pipelines.

Pipelines Design

Reg. 3 provides that the design of a pipeline shall be such that it shall be suitable for the transportation of liquid petroleum including crude oil, refined products, natural gas liquid condensate and liquefied petroleum gas. The design for the relocation, replacement and upgrading of an existing pipeline shall also be so suitable.

The Regulations stipulate as the minimum requirement for a low pressure or small diameter pipeline a standard design ASTM A 106 Grade B, or API 5L Grade B or any acceptable equivalent standard.¹⁸ For a high working pressure or large diameter pipeline requiring excessively thick walls to cope with the high pressure, the regulations stipulate an API 5 LX grade range.¹⁹ The design should be in accordance with the ANSI/ASME B 31.4 – 1979 standard code.²⁰ In addition to the pipeline being in accordance with the ANSI/ASME B 31.4 – 1979 standard code, special attention shall be paid to the following matters:

- i. Where a pipeline is to be laid at sea or riverbed without burial, the wave and current loads on the pipeline shall be taken into account in the stress calculation of the pipeline;
- ii. Where applicable, the calculation of limit stress due to sustained load, thermal expansion and occasional loads shall conform strictly with the ANSI/ASME B 31.4 – 1979 standard code;
- iii. The design and materials selection of the pipeline components, including tees, elbows, bends, valves, and fittings shall in all respects conform with the ANSI/ASME B 31.4 – 1979 standard code;
- iv. No used fitting of an existing pipeline shall be used on a new pipeline unless its original specification has been identified and confirmed to be capable of performing the new service;

¹⁸ See Reg. 4 (1)

¹⁹ Ibid

²⁰ It is worth noting that the ANSI/ASME B 31.4 – 1979 standard code has been replaced by the ASME B31.1-2010 power piping.

- v. The threaded joints at the internal and external portions of the pipe shall be of the Tapered Pipe Thread type²¹ and conform with the API standard 5B or NPT threads;
 - vi. The least nominal wall thickness of the threaded portion of the pipe shall not be less than the value specified in ANSI B. 36.10;
 - vii. All threaded joints of the pipe shall be those sections of the pipeline that are above the ground
- viii If pipelines are to be so connected that one will operate at a pressure higher than the other, they shall be so designed that the pipeline system operating at the lower pressure shall not be subjected to any pressure greater than that for which it is licenced;
- ix. Any pipe fitting valve or equipment connected to the pipeline shall have the manufacturer's rating which is equal to or greater than the proposed maximum operating pressure of the pipeline.²²

Pipelines construction

Reg. 5 of the Oil Pipelines Regulations provides that the procedure to be followed, the specification requirements and other matters involved in the construction of a new pipeline or replacement of an existing pipeline shall be as follows:

- (a) no person granted a licence to construct a new pipeline or replace an existing pipeline shall begin construction work unless he has given the Department of Petroleum Resources written notice of his intention to do so.
- (b) Any metallic pipeline material to be buried shall be coated with :
 - i. Coal-tar enamel,²³ asphalt, polyethylene tape, epoxy, asphalt mastic, urethane or extruded polyethylene;²⁴ or
 - ii. Any other material specially approved by the department for that purpose;
- (c) A surface pipeline shall be painted, raised and maintained above ground on permanent supports;
- (d) The pipeline construction shall:
 - i. Follow the steps outlined in chapter V of the ANSI/ASME B 31.4-1979 code;²⁵ and

²¹ A tapered pipe thread is like a wood screw that is used to fasten pipe components to the pipe.

²² Ibid. Reg. 4 (2)

²³ A coal tar enamel is a pipeline coating that prevents the pipeline from rusting or insulates it from corrosion.

²⁴ Extruded polyethylene is an environmentally friendly and extremely lightweight product that insulates oil pipelines and secures them from corrosion.

- ii. Be carried out in a way that cause the least disturbance to the environment;
- (e) Special precaution shall be taken to protect the pipeline from washouts, unstable soil, landslide or any other hazards that may cause the pipelines to shift or be subjected to abnormal loads;
- (f) Ditching for the pipeline shall be in accordance with good pipeline practice;
- (g) Consideration of public safety shall be in accordance with API RP 1102 or any other recognized equivalent standard
- (h) The minimum soil coverage of a pipeline shall be in the case of:
 - i. dry land, 0.9 meter;
 - ii. river crossing and riverbeds, 1 meter
 - iii. drainage ditch, railroad and highway crossing, 1.2 meters
 - iv. a rocky area, 0.6 meter;
 - v. a swamp, 0.6 meter; and
 - vi. a shipping channel, 1,5 meters;
- (i) The pipeline welding shall be in accordance with the provision of AP1 1104/1107
- (j) In addition to the specific requirements of relevant government agencies responsible for railroad and highway crossings, the following precautions shall be taken at railroad and highway crossings:
 - i. Any installation of a carrier pipeline or casing shall be in accordance with API RP 1102
 - ii. The casing shall either be insulated from its carrier pipe support and extends to both sides of the railroad or highway or the crossing shall be of a thicker wall pipeline covered with compacted fill and protective reinforced concrete slab;
 - iii. A surface line shall be similarly buried with casing protection or special construction as specified in (ii) above
 - iv. A pipeline warning sign shall be conspicuously displayed by the licensee at the entry and exit points of the railroad, highway, river or any other pipeline crossing;
- (k) The licensee shall, before commencing any ground disturbance in a populated or controlled area:
 - i. Locate the position and alignment of the pipeline with marking and distinguishable warning signs at such intervals as may be specified by the Department of Petroleum Resources;
 - ii. Identify any pipeline within thirty meters radius of its area of ground distance during the construction of the pipeline;

²⁵ ANSI/ASME B 314 – 1979 code is a code for pressure piping developed by the American Society of Mechanical Engineers (ASME). It covers power piping, fuel gas piping, pipeline transportation piping etc.

- (l) If there is an indication that a pipeline is within thirty metres radius of the pipeline or a pipeline crossing, the licensee or any other person undertaking construction within that radius shall locate the pipeline and mark it so that it can be identified and avoided by the construction equipment and no one shall excavate within 1 meter radius of the pipeline so located;
- (m) The Department of Petroleum Resources may direct that an existing pipeline or pipeline crossing located within the construction zone of the new pipeline in a populated or controlled area shall, during the period of ground disturbance in its vicinity be:
 - i. completely depressurized;
 - ii. operated at reduced pressure; or
 - iii. otherwise protected;
- n) Mainline block valves shall be installed:
 - i. On the upstream side of major river crossings
 - ii. At pump stations; and
 - iii. At other sensitive locations of the pipeline, including industrial, commercial and densely populated areas where construction activities may cause particular risk of damage to the pipeline; the right of way of the pipeline shall be clearly marked in those areas with signs for ease of identification;
 - iv. Check valves shall be installed on the downstream of river crossings;
 - v. The licensee shall not later than six months after completion of construction, submit two copies of the as-built plan²⁶ of the pipeline on the same scale as that of the plan submitted with the application for the pipeline licence.

Inspection and Testing of Pipelines

Reg. 6 of the Pipelines Regulations provide the following as the guidelines for inspecting and testing pipelines:

- a. The pipelines shall be inspected visually and examined radiographically²⁷ in accordance with the procedure set out in Chapter VI of the ANSI ASME B 31.4 1979 code
- b. Pressure tests shall be conducted by hydrostatic method²⁸ and in such manner as shall ensure protection of life, property and the general environment of the pipeline;
- c. The entire length of the pipeline shall be tested to the design rated pressure

²⁶ Projects are projects are built from blueprints. Building specifications always supersede the blueprint used to build. As a project progresses, there are times when circumstances required the building to depart from the blueprint. Therefore when the building is completed, the blueprint is corrected to reflect the completed building.

²⁷ Examining pipelines radiographically by x-raying the pipelines.

²⁸ A hydrostatic method is a method by which pressure vessels such as oil pipelines, gas cylinders etc are tested for strength and leaks.

- d. An in-line pressure vessel or a pre-fabricated manifold on the pipeline shall be tested to the manufacturer's specifications in accordance with the Mineral Oils Safety Regulations;²⁹
- e. The pressure recording instruments to be used shall have a valid calibration certificate which shall not be more than a year old
- f. The accuracy of the pressure recording instrument shall be within 2% of its range;
- g. The chart record of the test shall be continuous and legible and the test result and any remedial action shall be submitted to DPR for approval before the pipeline is commissioned;
- h. Except with the permission of DPR, the duration of pressure tests ,shall not be less than 24 hours of continuous testing in the case of leaks and material failures; and may be less than 24 hours of continuous testing but not less than 1 hour in the case of buried pipelines of not more than 100 meters in length and all surface running pipelines.
- i. All buried pipelines shall be tested to a pressure of not less than 1.25 times the maximum designed operating pressure
- ii. Surface pipelines transmitting liquid petroleum or gas shall be tested up to a pressure of not less than 1.4 times the maximum designed operating pressure;
- (k) Unless otherwise authorized or permitted by DPR, the actual test pressure throughout the duration of the test shall not exceed 110% maximum yield strength of the pipe material and the test equipment shall appropriately be pre-set to produce the above pressure; the test medium shall be water and the pipeline shall be tested to a minimum pressure of not less than 700 kilopascal;³⁰
- (l) The maximum test pressure in all cases shall not result in a hoop stress³¹ greater than 110% of the specified maximum yield strength of the pipe material based on its nominal wall thickness; and

²⁹ Reg. 15 of the Mineral Oils (Safety) Regulations provides that all pressure vessels and their fittings in use in oilfields installations shall meet the American Society of Mechanical Engineers code as far as their routine inspection and testing are concerned. In particular, the following matters shall be carried out and recorded: (a) oil heaters shall be examined at intervals of not more than 12 months and the fire-tubes replaced when below the minimum thickness. At the same time, all other parts and fittings both internal and external shall be examined. (b) all compressed air-receivers shall be drained of liquid daily. Not less than once in every 26 months, the receiver shall be tested hydraulically to the recommended test pressure. (c) gas separators shall be tested whenever the opportunity occurs and at intervals not exceeding 5 years. They shall be tested to the recommended test pressure. (d) relief valves and safety valves shall be inspected at least once in every 26 months or such shorter intervals as shall be necessary to maintain them in a satisfactory condition. (e) every pressure vessel shall be fitted with a tested pressure gauge. (f) all new pipework shall be tested in accordance with ASME working standards to 125 times the maximum intended working pressure before being put into service.

³⁰ Kilopascal is an international system unit of measurement that is used to measure pressure.

³¹ A hoop stress is the circumferential loading of a cylindrical, mechanical body. It is the circumferential stress in a cylindrical shaped part caused by internal or external pressure. It is also the tension in a wire brought about by wrapping operation and is maintained by locking the wire at the corner of the post.

- (m) Valves and fittings on the pipeline shall not, during the test, be subjected to a test greater than the manufacturer's test pressure rating.

Reg.8 (b) of the Pipeline Regulations provides that if a pipeline crosses or passes within 100 metres of a watercourse, the operator shall assure DPR that adequate contingency plans have been made for protecting the environment.

Pipelines Operation and Maintenance Guidelines

Reg. 9 of the Oil and Gas Regulations providing for pipelines operation and maintenance guidelines provides that:

- a. A licensee shall:
 - i. Not begin to operate a pipeline unless he has obtained the approval of DPR;
 - ii. Established a written emergency plan for implementation in the event of systems failure, accidents or other emergencies;
- b. An emergency established under (ii) above shall include procedure for prompt and expedient remedial action for the:
 - i. safety of the personnel of the operating company and the public;
 - ii. protection of property and the environment
 - iii. control of accidental discharges from the pipeline; and
 - iv. adequate training of personnel for the handling of emergencies;
- c. The maximum steady state operating pressure and static condition of a pipeline shall not exceed;
 - i. The internal design pressure; and
 - ii. Pressure ratings of the components, whichever is less, and the pressure surges or the momentary pressure variation shall not exceed 10%;
- d. Pipeline markers at crossings shall indicate the location of the pipeline and the name of the operating company;
- e. All pressure relief devices shall be:
 - i. Activated after installation to ensure that they function properly;
 - ii. Inspected and re-certified once in 26 months and the report of the inspection and re-certification shall be sent to DPR;

Reg. 13 provides for external corrosion control. It provides that anti-corrosion coatings shall be applied in such a manner that will mitigate corrosion. Reg. 14 provides for internal corrosion by providing that no corrosive material shall be transported in a pipeline unless appropriate measures have been taken to mitigate the corrosive effect of the material on the internal coating of the pipeline

Transportation of Gas

Because of its nature, the storage and transportation of gas present serious challenges. Gas that cannot be sold or process is either re-injected into a reservoir for storage or kept in well constructed tanks. When transported, gas loses pressure as it travels a long

distance. So it must be recompressed every 60-80km to ensure even flow. Because of the challenges of transporting Gas, the Oil and Gas Pipeline Regulations makes special provisions for the transportation of gas.

Gas Transmission and Distribution Guidelines

Reg. 16 of the Gas Transmission and Distribution Guidelines provides guidelines for design of gas transmission and distribution pipelines. It provides that the design, fabrication, installation, inspection, testing, operation and maintenance of gas transmission and distribution pipeline required to operate with metal temperature of between 450 F and minus 20 F shall be in accordance with the specifications of ANSI/ASME B 31.8-1986.³²

Reg. 17 provides for the construction of gas transmission and distribution pipelines by providing that long distance gas transmission pipeline shall be of steel. Reg. 21 provides for upgrading of pipelines. It provides that a licensee who desires to upgrade his pipeline shall apply to DPR stating:

- a. the reason for his desire to upgrade the pipeline;
- b. the leak history of the pipeline to be upgraded;
- c. the modification required to be made to the pipeline system to render it qualified for upgrading in accordance with the specifications for upgrading; and
- d. the tests the licensee intends to carry out on the upgraded pipeline

Where a licensee desires to change the nature of the fluid transmitted by a pipeline from liquid petroleum to gas or from sweet gas to corrosive gas, he must make an application to DPR.³³ He shall state in his application the reason for the change, the history of the affected pipeline and modifications required to be made on the pipeline for it to be capable of performing the new service.

Reg. 23 provides for discontinuation of the use of a pipeline. It provides that a licensee who desires to discontinue the use of a pipeline shall apply to DPR giving it at least three months notice of his intention to do so. The application shall be accompanied by the reason for the discontinuation, two copies of the plan of the entire pipeline and method proposed to be used for the discontinuation.

Reg. 24 provides for abandonment and removal of pipeline. it provides that where the pipeline is to be totally abandoned, the provisions of Reg.23 shall apply. Where the abandoned pipeline is to be removed, the licensee shall send to DPR the proposed work programme for the removal for approval. When the pipeline is removed, the licensee shall restore to perfect condition the disturbed land area in the vicinity of the pipeline.

³² ANSI/ASME B 31.4 – 1979 code is a code for pressure piping developed by the American Society of Mechanical Engineers (ASME). It covers power piping, fuel gas piping, pipeline transportation piping etc.

³³ See Reg. 22

Reg. 25 provides for resumption of operation of abandoned or discontinued pipeline. It provides that a licensee who desires to resume operations in an abandoned or disused pipeline shall apply to DPR for approval. His application should be accompanied with reason for the resumption of operations and the proposed method to be used to reactivate the pipeline.

Reg. 26 provides that non-compliance with the Regulations is an offence punishable on conviction with a fine of ₦500,000 or imprisonment for six months or both. If the offence is committed by a body corporate and there is evidence that it was committed by the neglect of duty by a director or some other officer of the body corporate, such director or officer might be jointly liable with the body corporate.

Vandalization of pipelines, gas flaring and oil theft are three critical problems of the oil industry in Nigeria. It is therefore understandable why these legal provisions are so stringent. The only problem is that the law is rarely enforced.

The contractual character of Permits, Licences and Leases

Legal provisions on pipeline survey permits, pipeline licences, oil prospecting licences and oil mining leases discussed in this text are statutory provisions. It is however, worth noting that pipelines survey permits, oil prospecting licences and oil mining leases though statutory by prescription, when granted are contracts between the granting authority and the recipient entity. Their source is statutory but their content is contractual. Statutes gave birth to them, but contract sustains them.

Permits, licences and leases are adhesion or standard form contracts. As such contracts, the *contra proferentem* rule applies on them so that any ambiguity in them would be construed against the authority that granted them. Transparency, precision, simplicity, clarity and intelligibility are critical to instruments such as licences and leases. It is in the interest of the licensor or lessor not to use ambiguous, vague, obscure and unintelligible terms in a licence or lease because any doubt arising from the use of such terms would be resolved against him. This being the case, it pays the licensor or lessor to embark on a process of disambiguation after drawing up a licence or lease so as to make the licence or lease as clear, transparent, simple and intelligible as possible.

In a proper case, perhaps instead of construing the ambiguous provision against the party that drew up the agreement, recourse might be had to the equitable remedy of rectification to cure the ambiguity. This would be done by purging the agreement of the words that make the provision ambiguous and replacing such words with clear and unambiguous words. However, this is likely to be resisted by the party that would benefit from the ambiguity being construed against the person that drew up the agreement. This being the case, it is incumbent on the person or authority drawing up a permit, a licence or lease to avoid ambiguity as much as it lies within his competence to do so.

Risks and Expenses of Oil and Gas Operations and the Guarantees Needed For Oil and Gas Operations

Risk of Oil and Gas Operations

Oil and gas operations are high risk operations from exploration to production, transportation, refining and storage. Oil exploration is an expensive and high risk operation. Offshore and remote area exploration is generally undertaken only by large oil corporations or national governments. Small oil companies only search for onshore hydrocarbon deposits. As a high risk investment, risk assessment is critical for a successful oil exploration portfolio. Exploration risk is defined by assigning confidence to the presence of imperative geological factors. This confidence is based on data and or models and is usually mapped in common risk segments (CRS) maps. High confidence based on imperative geological factors is coloured green while low confidence is coloured red. Because of the colouring, these maps are also called traffic light maps.

Play fair view analysis is a fair and balanced analysis of risk involved in oil exploration. This analysis if well made reduces funding and development cost and increases profits.

Expenses of Oil and Gas Operations

Oil and gas operations are very expensive from exploration, production, transportation and refining. Oil and gas operations are driven by high technology from exploration to production, transportation and refining. Because of the high and expensive technology involved, oil and gas operations involved prohibitive expenses that only oil companies with solid financial base can undertake them. Oil and gas discoveries do not come easy. That it took almost fifty years¹ of exploration to find oil in the Niger Delta shows how difficult it is to discover oil.

Because of the high technology, risk and expenses of oil and gas operations, legal guarantees and security in the form of contractual agreements, insurance and speedy

¹ See Discovery and History of Oil in Nigeria

remedial means in the form of arbitration are needed for operators to undertake the risk and expenses of oil and gas operations.

Insurance

Because of the high risk in petroleum business, insurance is a necessary aspect of any investment in the industry. For instance it is always provided in Joint Venture Agreements, Production Sharing Contracts, Service Contracts between NNPC and IOCs that all property acquired under provisions of the contract shall be insured in an insurance company of good repute by the Contractor (the IOC) in consultation with NNPC. The insurance is taken out in the name of both the Contractor and NNPC. The premiums for such insurance shall be included in operating cost. In the case of loss or damage to insured property, indemnifications paid by the insurance companies shall be entirely received by the Contractor for petroleum operations. The Contractor shall determine whether the lost or damaged property should be repaired, replaced or abandoned.

Such agreement would further provide that the Contractor shall take out and maintain an insurance policy covering any and all damages caused to third parties as a direct or indirect result of the Contractor's operations. By this provision, host communities that have suffered loss or damage as a result of the operations of oil corporations can make a claim against the oil corporation that has taken out this third party insurance and hope to be paid for their loss or damage from the insurance money.

If a comprehensive third party insurance is taken by the contractor, host communities claims against IOCs and NNPC in the form of environmental pollution damage to farmlands, crops or fishing ponds would be met by insurance money from insurance companies these risks were insured against. In practice however, IOCs and NNPC do not take such comprehensive insurance because of the huge premiums it will attract. What is more, knowing there is such insurance money successful environmental pollution claims can be satisfied from, host communities in the Niger Delta will go to court on the wagging of a straw.

Oil exploration and production contracts whether Joint Venture Agreements, Production Sharing Contracts or Service Contracts also always provide that the operator or the contractor (the IOC) in entering into contract with any sub contractor for the performance of petroleum operations shall require such sub contractor to take adequate insurance and indemnify the contractor and NNPC for any damage from all claims of third parties. The oil and gas industry is a very technical industry that requires the participation of numerous service companies – most of them being petroleum geology and petroleum engineering companies. This entails subcontracting different aspects of the myriad of jobs to be performed pursuant to petroleum prospecting, drilling and mining to different companies with expertise to handle the different aspects of petroleum operations. Given the preponderance of subcontracting in the industry, it is imperative that sub contractors insure against petroleum

operation risks as much as the main Contractor. It should be noted, however, that such sub Contractors will insure only against risks that pertain the aspect of their involvement in the petroleum operation chain.

Because of the critical role of insurance to the oil and gas industry, some knowledge of the general principles of insurance law is critical for the aspiring oil and gas lawyer. These general principles are the seven principles of insurance law:

- i. Principle of *Uberrimae fidei* (Utmost Good Faith);
- ii. Principle of Insurable Interest;
- iii. Principle of Indemnity;
- iv. Principle of Contribution;
- v. Principle of Subrogation;
- vi. Principle of Loss Minimization;
- vii. Principle of *Causa Proxima* (Nearest Cause).

Principle of Uberrimae fidei

Uberrimae fidei is a Latin phrase that means utmost good faith. Utmost good faith is a very basic and first primary principle of insurance. According to this principle, the insurance contract must be signed by both parties (i.e. insurer and insured) in absolute good faith or trust. The person insured must willingly disclose and surrender to the insurer the complete true information regarding the subject matter of insurance. The insurers liability gets void (i.e. legally revoked or cancelled) if any material facts, about the subject matter of insurance are either omitted, hidden, falsified or presented in a wrong manner by the insured. The principle of *Uberrimae fidei* applies to all types of insurance contracts.

Principle of Insurable Interest

The principle of insurable interest states that the person getting insured must have insurable interest in the object of insurance. A person has an insurable interest when the physical existence of the insured object gives him some gain and its non-existence will give him a loss. In simple words, the insured person must suffer some financial loss by the damage of the insured object. For example, the owner of a taxicab has insurable interest in the taxicab because he is getting income from it. But, if he sells it, he will not have an insurable interest left in the cap. From the above example, it can be concluded that ownership of the taxicab by the taxicab owner plays a very crucial role in evaluating the insurable interest of the taxicab owner.

Principle of Indemnity

Indemnity means security and protection. The principle of indemnity is about compensation given against damage or loss. According to the principle of indemnity, insurance contract is signed only for getting protection against unpredicted financial losses arising from future uncertainties. Insurance contract is not made for making profit. Rather its sole purpose is to give compensation in case of any damage or loss.

Principle of Contribution

Principle of Contribution is a corollary of the principle of indemnity. It applies to all contracts of insurance. If the insured has taken out more than one policy on the same subject matter, according to this principle, the insured can only claim compensation to the extent of the actual loss either from all insurers or from only one insurer. If one insurer pays full compensation, then that insurer can make a proportionate claim on the other insurers.

Principle of Subrogation

Subrogation means substituting one creditor for another. The principle of subrogation is an extension and corollary of the principle of indemnity. The principle of subrogation applies to all contracts of insurance. According to the principle of subrogation, when the insured is compensated for loss due to damage to his insured property, then the ownership right of such property shifts to the insurer. This principle, however, is applicable only when the damaged property has any value after the damage. The insurer can benefit out of subrogation rights only to the extent of the amount he has paid to the insured as compensation.

Principle of Loss Minimization

According to the Principle of Loss Minimization, the insured must always try his level best to minimize the loss of his insured property in case of events like for instance, a fire outbreak. The insured must take all possible measures and necessary steps to control and reduce the loss in such a situation. The insured must not neglect and behave irresponsibly during such events just because the property is insured. It is the responsibility of the insured at all times to protect the insured property and avoid further loss.

Principle of *Causa Proxima* (Nearest Cause)

This principle means that when a loss is caused by more than one cause, the proximate or the nearest or the closest cause should be taken into consideration to decide the liability of the insurer. The principle states that to find out whether the insurer is liable for the loss or not, the proximate (closest) and not the remote (farthest cause) must be looked into. For example, if an insured cargo ship's base is punctured by rats thereby making seawater to enter the ship and damage cargo, there are two causes for the damage of the cargo ship namely the puncturing of the cargo ship by rats, and the entering of seawater into the ship. Under the ship insurance, the risk of sea water is insured but the first cause is not. The nearest cause of damage is sea water which is insured and therefore the insurer must pay the compensation. However, in case of life insurance, the principle of *Causa Proxima* does not apply. Whatever may be the reason of death (whether a natural death or an unnatural death) the insurer is liable to pay the amount of insurance.

Insurance is an adhesion or a standard form contract on which the *contra proferentem* rule applies. Any ambiguity in it would be construed against the insurer. This being the case, NNPC or its international oil corporation partners can always take advantage of any ambiguity in an insurance agreement against the insuring company in the event of dispute over a claim generated by ambiguity in the insurance agreement.

Arbitration

Like with any business relationship, dispute is likely to arise between NNPC and any of the international oil corporations it enters into either concessions, Joint Venture Agreement, Production Sharing or Service Contracts with. Given the complex and long-term character of oil operation and production contracts, disputes are even more likely to arise in them than in less complex and short term contracts. This being the case, arbitration clauses are always inserted into oil operation and production contracts.

There are standard arbitration clauses, which are used in agreements that employ arbitration as means of settling disputes. These arbitration clauses are clauses generated by international arbitration bodies. Such arbitration clauses provide samples of arbitration clauses from which a lawyer casting an arbitration clause in an oil contract may select or be guided by. Examples of these are:

The Chartered Institute of Arbitration clause

The Chartered Institute of Arbitration clause provides that:

Any dispute or difference arising out of or in connection with this contract shall be determined by the appointment of a single arbitrator to be agreed between the parties or failing agreement within fourteen days after either party has given to the other a written request to concur in the appointment of an arbitrator by the President or Vice President of the Chartered Institute of Arbitration.

An NNPC Joint Venture Agreement, Production Sharing Contract or Service Contract with IOCs may contain the below arbitration clause:

If a difference or dispute arises between the Corporation and the Contractor concerning the interpretation or performance of this contract and if the parties fail to settle such difference or dispute by amicable agreement then either party may serve on the other a demand for arbitration. Within thirty days of such demand being served, each party shall appoint an arbitrator and the two arbitrators thus appointed shall within a further 14 days appoint a third arbitrator and if the arbitrators do not agree on the appointment of such third arbitrator, or if either party fails to appoint the arbitrator to be appointed by it, such arbitrator or third

arbitrator shall be appointed by the President of the Court of Arbitration of the International Chamber of Commerce in Paris on the application of the other party (notice of the intention to apply having been duly given in writing by the applicant party to the other party) and when appointed, the third arbitrator shall convene a meeting and act as chairman thereof. If an arbitrator fails or is unable to act, a successor shall be appointed by the respective party or by the arbitrators. The arbitration award shall be binding on the parties and the expenses shall be borne by the parties in such proportion and manner as may be provided in the award. The Nigerian Arbitration and Conciliation Act Cap 19 Laws of the Federation of Nigeria, 1990 shall apply to this contract. The venue of the arbitration shall be anywhere in Nigeria as agreed by the parties.

The above sample arbitration clause likely to be contained in an NNPC/IOC Joint Venture, Production Sharing, or Service Contract is the Chartered Institute of Arbitration clause adopted with slight modifications. In most NNPC/IOCs oil exploration and production contracts, it is the preferred arbitration clause.

London Court of International Arbitration clause

The London Court of International Arbitration (LCIA) clause provides that:

Any dispute arising out of or in connection with this contract including any question regarding its existence validity or formation shall be referred to and finally resolved by arbitration under the LCIA rules which rules are deemed to be incorporated by reference into this clause.

- i. The number of arbitrators shall be (one or three).
- ii. The seat or legal place of arbitration shall be (state city or country)
- iii. The language to be used in the arbitration shall be (insert language).
- iv. The governing law of the contract shall be substantive law of (insert governing law).

International Court of Arbitration Clause

International Court of Arbitration Clause on its part provides that:

All disputes arising out of or in connection with the present contract shall be finally settled under the rules of arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said rules.

Arbitration is partly statutory, partly contractual, and to the extent that it evolves from common customs all over the world of settling disputes in a communal manner, partly customary law. Arbitration is commonly used in contracts that require the parties to resolve their disputes through an arbitration process. Arbitration clauses are common features of oil exploration and production contracts. When arbitration clauses are inserted into oil contracts, they usually specify that arbitration occur within a specific jurisdiction. Put another way, such clauses always contain geographic forum selection which are enforceable.

In oil agreements as in other agreements, an arbitration clause can be challenged if it designates a biased party as arbitrator. Such a designation is considered unduly oppressive to the non-designating party and voided for unconscionability. It is safer either for an arbitration clause in an oil agreement to give the right to the parties either to jointly appoint an arbitrator or for each party to appoint one arbitrator each, while both parties jointly appoint a third. Parties to a contract subject to arbitration can also designate a widely recognized neutral organization as arbitrator instead of appointing human persons as arbitrators.

Mutuality of obligations is required in arbitration. One party should not be held to arbitration while the other is not. This means that when drafting an oil contract subject to arbitration care should be taken that both parties are equally bound to arbitration. Some legal jurisdictions exclude or restrict arbitration to protect weaker members of the public e.g. consumers. German law for example exclude disputes over rentals of living spaces from arbitration. The reason German law excludes rental disputes from arbitration is the likelihood that the landlord will always prevail over the tenant in such arbitration given the relative strength and weakness of the parties. Strictly speaking, applying German law provisions against arbitration between landlord and tenant, an arbitration agreement between NNPC and an IOC may be invalidated if NNPC representing the Nigerian government is seen as landlord while the IOC is seen as tenant.

Because of the importance of arbitration to oil operation and production contracts, knowledge of some general principles of arbitration law are critical to the oil and gas lawyer. These general principles include the following.

Doctrine of *Kompetenz-Kompetenz*

The doctrine of *Kompetenz-Kompetenz* (German), *competence-competence* (English), and *compétent sur la compétence* (French) is an arbitration doctrine under which an arbitral tribunal is allowed to make a decision whether it has jurisdiction or not and whether an arbitration agreement is valid or not. This is an important principle of arbitration. If an arbitral body cannot determine its competence or jurisdiction, a recalcitrant respondent can easily frustrate the parties agreement by contesting the validity or existence of the arbitration agreement in court. By *Kompetenz-Kompetenz* an arbitration tribunal can look into its own competence without waiting for a court to do so for it.

The *Kompetenz-Kompetenz* doctrine is a very helpful doctrine in oil contracts that always carry arbitration clauses. For instance, if a dispute were to arise in NNPC/IOC Joint Venture Agreements, Production Sharing Contracts or Service Contracts, an arbitral tribunal appointed by the parties can invoke the *Kompetenz-Kompetenz* principle to determine the validity of the arbitration agreement and whether it has jurisdiction to arbitrate over the dispute. But for this doctrine, one of the parties can easily frustrate the right of the other party to arbitration by challenging the jurisdiction of an arbitration tribunal to arbitrate or by refusing to submit itself to arbitration.

Principle of Separability

By the principle of separability, the agreement to arbitrate is separate from the main agreement. By this principle, the main agreement may be invalid but the agreement to arbitrate disputes arising from the invalid agreement may not be invalid. The House of Lords in *Fiona Trust and Holding Corporation v. Privalov*² held that an arbitration agreement could be invalidated only on a ground which related specifically to the arbitration agreement itself and not merely as a consequence of the invalidity of the main agreement. The House of Lords held that allegations that the main contract had been procured by fraud or bribery does not invalidate the arbitration agreement.

By the principle of separability, a PSC agreement between NNPC and an IOC may be invalid, but the arbitration agreement between the two parties may not necessarily be invalidated by the invalidity of the main agreement. The question then is the usefulness of a valid arbitration agreement in an invalid main agreement. Its usefulness in such agreement may not go beyond settling any dispute the invalidity has generated. Be this as it may, the principle of separability is not concerned with the utility of validity of an arbitration agreement, but only with the fact that invalidity of the main agreement does not necessarily invalidate the arbitration agreement in it. Whatever may be the use of such valid arbitration agreement in an invalid main agreement is of little or no moment to the principle of separability.

Force Majeure

Broadly defined force majeure means any occurrence beyond the control of a person. In this broad sense, a force majeure occurrence will include natural causes, acts or perils of navigation, fire, hostilities, war, blockade, labour disturbance, strikes, riots, insurrections, civil commotion, quarantine restrictions, epidemics, storms, floods, earthquakes, accidents, blowouts, lightning, and acts or order of government. In oil and gas prospecting and production contracts, force majeure always carry its broad meaning.

² (2007) EWHC 1217

Narrowly defined, force majeure means act of God. So narrowly defined, a force majeure occurrence would be limited only to those occurrences that form part of natural disasters.

The 1969 Petroleum Act provided for force majeure when it provides that failure on the part of the holder of a licence or lease to which this schedule applies to fulfil any of the terms or conditions of the licence or lease shall not (except as may be otherwise provided for in or in relation to the licence or lease) give the Minister any claim against the licensee or lessee, or be deemed a breach of the licence or lease, if the failure arises from causes beyond the control of the licensee or lessee. If from any such cause the fulfilment by any such licensee or lessee of any term or condition of his licence or lease or of any provision of this Act is delayed, the period of delay shall be added to the period fixed for the fulfilment of the term or condition.³

In either a Joint Venture or PSC agreement, there is always a force majeure clause. Such a clause will, for instance, provide that any failure or delay on the part of either party in the performance of its obligations or duties under the contract shall be excused to the extent attributable to force majeure. A force majeure situation includes delays, defaults or inability to perform due to any event beyond the reasonable control of either party: natural causes, acts or perils of navigation, fire, hostilities, war, blockade, labour disturbance, strikes, riots, insurrections, civil commotion, quarantine restrictions, epidemics, storms, floods, earthquakes, accidents, blowouts, lightning, and acts or order of government.

It is usually provided in such agreements that immediately on the occurrence of the force majeure, the party affected by the force majeure shall notify the other party in writing stating in details the event constituting the force majeure and the measures being adopted by such party to minimize the effect of the force majeure including where possible, the use of reasonable measures to protect the confidentiality requirements of the agreement.

If operations are delayed, curtailed or prevented by force majeure, the time for carrying out the obligations thereby affected shall be extended for a period equal that of the force majeure. Also force majeure is considered an excusable delay and neither party shall be entitled to any claim for compensation or damages for loss of anticipated profit, economic loss or other losses, including consequential and indirect damages that may arise as a result of the force majeure occurrence.

The party affected by the force majeure shall promptly notify the other party not later than 48 hours of the force majeure stating the cause of the force majeure and both parties shall do all that is reasonably within their powers to remove the force majeure.

Because of the short period the contract covers, in service contracts such as security agreements between NNPC and security firms, it is often provided that if a

³ See paragraph 41 (1) and (2) of the first schedule to 1969 Petroleum Act

force majeure continues for a consecutive period of thirty days, either party has the right to terminate the agreement. If the force majeure however ceases before the expiration of thirty days, either party may by notice to the other, request for resumption of the performance of the services. In PSC agreements, joint venture agreements and oil exploration and production service contracts however, such a provision is rarely inserted, presumably because of the long period the agreement covers.

Ownership of Oil and Gas

Theories of Oil and Gas Ownership

Because of its migratory character, when presented with claims of ownership of oil and gas, early common law jurists were somewhat reluctant to recognize a corporeal possessory interest in substances they considered to be fugacious or *wild and migratory*, and therefore subject to loss by drainage.¹ Among U.S. states, two different theories of ownership of oil and gas arose. Some states, such as Texas, adopted the *ownership-in-place* theory for oil and gas that a landowner owns a corporeal possessory interest similar to a fee simple in the substances beneath his land, but his ownership is a determinable fee subject to the *rule of capture*.² Other states, like Oklahoma, have adopted the *exclusive-right-to-take* theory that a landowner does not own the substances that underlie his land, but merely retains the exclusive right to capture the substances.³ The difference between the two theories is primarily of import in determining remedies.

However oil or gas is owned and by whoever, ownership generally starts from the land surface to the subsurface downwards. Subsurface ownership boundaries are the same as those upon the surface, projected downward to the centre of the earth. This concept is based on the Roman legal principle of property law, *cuius est solum eius est usque ad coelum et ad inferos* - *whosoever owns the soil, it is theirs up to the sky and down to the depths*.

¹ *Hammonds v. Central Kentucky Natural Gas Co.*, 75 S.W.2d 204 (Ky.1934). In Hausaland there is a saying that the pigeon is the property of the sky when it flies away. Oil in its migratory character may be likened to the pigeon. When oil migrates from a person's land, it is no longer his property but that of the person whose land it has migrated to. Well, perhaps the person whose land oil has migrated from needs not complain too much. Considering that the oil came into his land in the first place by migration, it may leave his land by the same process. If he can acquire a talisman to induce the oil back into his land, perhaps it will.

²The rule of capture is the common law rule of non-liability and ownership of captured natural resources including groundwater, oil, gas, and animals. See Michel T. Halbouty et al., v. Railroad Commission of Texas et al., 357 S.W.2d 364 (Tex. 1962) for The ownership-in-place theory.

³ E. Kuntz, A Treatise on the Law of Oil and Gas

Ownership of Oil and Gas by the Nigerian State under Nigerian Law

Ownership of oil and gas in Nigeria is vested in the Nigerian government by section 44 (3) of the 1999 Constitution. Before the 1999 Constitution, section 40 (3) of the 1979 Constitution vested ownership of oil and gas in the Nigerian government. Section 44 after guaranteeing for Nigerians the right to property in subsection 1, provides in subsection 3 that:

Notwithstanding the foregoing provisions of this section, the entire property in and control of all minerals, mineral oil and mineral gas in, under or upon any land in Nigeria or in, under or upon the territorial waters and the exclusive economic zone of Nigeria shall vest in the government of the federation and shall be managed in such manner as may be prescribed by the National Assembly.

Section 2 (1) of the 1978 Land Use Act vests ownership of all lands in a state in the governor of the state. Though the said law does not vest ownership of oil and gas in the governor, that he owns the land has implication for oil and gas ownership which implication section 44 (3) of the 1999 Constitution resolved in favour of the federal government which the Constitution vests ownership of oil and gas in.

Section 1 of the 1969 Petroleum Act vests ownership of oil and gas in the Nigerian state by providing that:

- (1) The entire ownership and control of all petroleum in, under or upon any lands to which this section applies shall be vested in the state.
- (2) This section applies to all land including land covered by water which
 - (a) is in Nigeria; or
 - (b) is under the territorial water of Nigeria
 - (c) forms part of the continental shelf.

Ownership of Oil and Gas by the Nigerian State under International Law

Outside provisions of Nigerian law which vests ownership of oil and gas in the Nigerian state, international law entitles the Nigerian state to ownership of oil and gas resources found within it. Under the United Nations system, Resolution 626 of the U.N General Assembly provides that the right of peoples to use and exploit their natural wealth and resources is inherent in their sovereignty. In 1962 the U.N General Assembly passed Resolution 1803 providing for permanent sovereignty by states over natural resources in their territories. It provides that:

The right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interests of their national development and the well-being of the people of the state concerned.

The *U.N Charter of Economic Rights and Duties of States* in its turn provides in Resolution 3281 that: 'every state has and shall fully exercise full and permanent

sovereignty including possession, use and disposal of all its wealth, natural resources and economic activities.”

All these provisions of the U.N system point to a right by states to own the natural resources within their territories. It is such ownership that entitles states to nationalize or expropriate natural resources that have been developed within their territory by either foreign or indigenous investment or both. In this regard the *U.N Charter of Economic Rights and Duties of States* provides that:

Each state has the right to nationalize, expropriate or transfer ownership of foreign property in which case appropriate compensation shall be paid by the state adopting such measures, taking into account any relevant laws and regulations and all circumstances that the state considers pertinent. In any case where the question of compensation gives rise to a controversy, it shall be settled under the domestic law of the nationalizing state and by its tribunals, unless it is freely and mutually agreed by all states concerned that other peaceful means be sought on the basis of the sovereign equality of states and in accordance with the principle of free choice of means.

Ownership of Oil and Gas in other Jurisdictions

Ownership of oil and gas around the world varies. In some states like Nigeria, oil and gas is owned by the Nigerian state. In some other states like the United States of America, oil may be owned by the state or by individuals.

In the U.S different states have different laws on ownership of oil and gas. In some states such as Michigan oil and gas are owned by the state. In some other states such as Pennsylvania, Arkansas and Texas, oil and gas are absolutely owned by whoever happens to have it under or upon his land. However if the oil or gas migrates from his land into the land of a neighbour, he loses title to the resource and it becomes the resource of the person in whose land it now resides. This ownership of oil and gas though said to be absolute is actually conditional. It is ownership of oil and gas by a landowner that is conditional on the oil remaining under his land.

The above principle of ownership may be traced to the common law *rule of capture*. The *rule of capture* or *law of capture* is an English common law rule adopted by a number of U.S. jurisdictions. It establishes a rule of non-liability and ownership of captured natural resources including groundwater, oil, gas, and animals. The general rule is that the first person to *capture* a resource owns the resource. For example, a landowner who extracts or *captures* groundwater, oil, or gas from a well within the subsurface of his land acquires absolute ownership of the substance, even if it is drained from the subsurface of another’s land.⁴ The landowner that captures the

⁴ See *Ohio Oil Co. v. Indiana*, 177 U.S. 190, 203 (1900)

substance owes no duty of care to other landowners.⁵ For example, a water well owner may dry up wells owned by adjacent landowners without fear of liability, unless the groundwater was withdrawn for malicious purposes, the groundwater was not put to a beneficial use or in Texas, such conduct is a proximate cause of the subsidence of the land of others.⁶ A corollary of this rule is that a person who drills for groundwater, oil, or gas may not extract the substance from a well by drilling on a slant.⁷

The rule of capture creates an incentive for an owner to drill as many wells as possible on his piece of land so as to extract the groundwater, oil, or gas before his neighbour. Very dense drilling can result in dissipation of the pressure within an aquifer or oil and gas reservoir, and therefore overdrafting of the aquifer or incomplete extraction of the substance. To mitigate this danger, many states in the U.S have sought to supersede *the rule of capture* with conservation acts. Such acts enforce prorationing, pooling, and limits on density of drilling to avoid physical waste and ensure maximum ultimate recovery.

The rule of capture perhaps was formulated from an almost universal custom of acquisition and ownership of natural resources by being the one to first annex them. It is this universal custom that makes a person who first cleared and cultivated land its owner. By this custom a hunter was entitled to the game he shot and a fruit gatherer was entitled to the mushrooms he first saw sprouting out of the ground and he dropped a bundle of leaves on them to denote that the mushrooms had been *captured*.

Stretching the rule of capture further, the Nigerian state can legitimately lay claim to ownership of the oil and natural gas resources in the Niger Delta, which indigenes of the region have been seeking to assert ownership rights over. It was the Nigerian state under colonial rule that searched and discovered oil in the Niger Delta. Having searched and found oil and gas, the Nigerian state like the hunter and fruits gatherer *captured* these natural resources and therefore is entitled to their ownership against the owners of the land the oil and gas reside who did not think of its existence nor search for and capture it. A counter argument to this thesis by indigenes of the Niger Delta may be that having captured the land the oil and gas are, they captured these resources on the basis of the common law principle of *quid quid plantatur solo solo cedit* – he who owns the land, owns everything that is in it. This is sound reasoning except that is an overtaken and superseded reasoning. The reasoning here is overtaken and superseded by the rule of capture. The Nigerian state having captured oil and gas has pulled it out of the land the land owner captured. While the land owner can claim the land and all that is in it that he can see, the Nigerian state can

⁵ *Acton v. Blundell*, 12 Mees. & W. 324, 354, 152 Eng. Rep. 1223, 1235 (Ex. Ch. 1843)

⁶ *Friendswood Development Co. v. Smith-Southwest Industries, Inc.*, 576 S.W.2d 21 (Tex. 1978)

⁷ H. Williams and C. Meyers, *Oil and Gas Terms* 737 (5th ed. 1981); *See also Nunez v. Wainoco Oil & Gas Co.*, 488 So. 2d 955, 958 (La. 1986)

claim the oil and gas it captured with all that is in these resources. Again the common law principle of *quid quid plantatur solo solo cedit* is not an absolute rule that admits of no limitation. It is a rule that is limited by statute and even by customary law of universal application such as the rule of capture.

Still on the basis of the *quid quid plantatur solo solo cedit*, it may be contended for indigenes of the Niger Delta that having captured the land, they captured the oil and gas in it. But a hunter can only capture what he hunts for. Making such a case by indigenes of the Niger Delta is no less absurd than a hunter or fruits gatherer claiming ownership of all the animals or fruits that abound in the forest he lived.

Furthermore, the rule of capture is more universal and widespread, both from the point of where it is recognized and enforced as a rule of law and the property it covers. The rule of capture is recognized and enforced as a rule of law the world over and on every form of property from land to air and water. On the other hand, *quid quid plantatur solo solo cedit* is a common law rule of England that applies only on land.

Again, the rule of capture has a more ancient origin than the principle of *quid quid plantatur solo solo cedit*. Life began with the rule of capture. *Quid quid plantatur solo solo cedit* is an appendage of later origin. Captured in a layer form, the rule of capture is a lower and deeper layer than *quid quid plantatur solo solo cedit*. So from the point of antiquity, the rule of capture again trumps *quid quid plantatur solo solo cedit*.

Finally, the rule of capture provides the basis for the application of *quid quid plantatur solo solo cedit*. For *quid quid plantatur solo solo cedit* to apply on land, the land must first be captured.

All said and done, on the basis of the Nigerian state ownership of oil, the Nigerian state through NNPC, the representative of the Nigerian state in the oil industry, enters into concession agreements, Joint Venture Agreements, Production Sharing Contracts, Service Contracts and other types of contract either for the exploration and production of oil and gas or for services that would further the exploration, production and sale of oil and gas. Prototype agreements between NNPC and IOCs on exploration and production of oil and gas are examined in Part C of this text.

PART C

Prototype Oil and Gas Contracts

The Concession

Definition and Legal Basis of Concession

The ordinary dictionary meaning of concession is a thing that is granted especially in response to a demand. A concession agreement is a grant of rights, land or property by a government, local authority, corporation, individual or other legal entity.¹ A concession is also a negotiated contract between a company and a government that allows the company to operate specific business within the government's jurisdiction subject to certain conditions. A concession agreement may also refer to an agreement between the owner of a facility and the concession owner or concessionaire that grants the latter exclusive rights to operate a specified business in the facility under specified conditions.² Oil exploration, oil prospecting licences and oil mining leases are examples of these types of concessions.

Regardless of the type of concession, the concessionaire always have to pay to the party that grants it the concession ongoing fees that may either be a fixed amount or a percentage of revenues. Oil prospecting licences and oil mining lessees have to pay to government concession fees in the form of concession rentals, royalties and taxes.

Oil and gas concessions by Nigerian government as by governments of other nations are founded on the fact that the oil and gas is owned by the Nigerian state rather than by the person in whose land the oil and gas are found. The legal basis of concession therefore is ownership of the resource being granted by the authority or entity granting it.

Types of Concessions

Concessions may be divided into two: the traditional concession and the modern concession. In Nigeria, the traditional concession is the legacy of the British colonial government while the modern concession is the brainchild of Nigerian government after independence. Traditional or modern, concession of a natural resource carries the idea of surrendering the exploration and exploitation of the resource by its owner to an entity. The concession is made to the entity mostly because of its technical competence and financial resources to exploit the natural resource.

¹See www.investopedia.com

² Ibid

Under traditional oil concession in Nigeria as elsewhere, almost complete ownership of an oil producing area was granted to an oil company to explore and produce oil. This grant was for inordinately long period of time and for virtually no consideration other than the expectation that the oil corporation would begin exploring for oil in the country.

The granting of concession of the traditional type to international oil corporations in Nigeria started during the colonial period when the British colonial government granted exclusive concession to Shell D'Arcy now Shell Petroleum Development Company. The concession was granted for almost no consideration from Shell. The concession amounted to a virtual assumption of sovereignty by Shell over Nigerian oil resources. The concession granted extensive and plenary rights to Shell to explore and exploit oil resources anywhere in Nigeria. There was no provision for Nigerian government renegotiating the concession.

Because of its unfair character, this type of concession had to be reviewed in favour of granting concession to other international oil corporations to also explore and prospect for oil in Nigeria. This became necessary because of the slow pace of oil exploration by Shell. Having no competitor, there was no incentive for Shell to be aggressive in its oil exploration. The huge size of Nigeria also made it imperative to have more than one oil company exploring for oil in it.

Generally, traditional concessions for the exploitation of any natural resource by a multinational corporation contain elaborate financial projections of cash flow for the multinational corporation to determine the expected returns on its investment. In making these projections and calculations, the corporation would usually demand that government unequivocally spell out the full range of fiscal impositions such as taxes, royalties, duties, rents and bonuses to be imposed for whole concession period insisting that the fiscal regime imposed at the beginning of the concession must not change throughout the concession period. For example, in the oil concession by the Nigerian government in 1961 to Shell in the Oyakama area of the Niger Delta, the concession required Nigeria to fix the royalties and rents that Shell will pay to the country for a period of 15 years.³ According to Shell, bankers and other financial institutions will not provide it financing for its projects unless it presents to them definite long term contracts concluded with the Nigerian government which spell out in great details the entire fiscal package and contain iron-cast guarantees from the government regarding these financial arrangements.⁴

Because of the extensive, rigorous and draconian character of the traditional concession for the conceding party, Nigerian government shortly after independence abandoned it in favour of the modern concession. The modern concession favoured by the Nigerian government is in all oil mining leases granted by the Minister of

³ G. Ajiboye, *National Resources Management in Nigeria contained in Environmental Law and Policy* by T.E Adeyemi p.174

⁴ Ibid

Petroleum and even in oil prospecting licences. This concession is for a shorter period of time, allows for reviews of its fiscal regime to reflect current economic realities and is for smaller acreages.

Samples of Oil Prospecting Licences and Oil Mining Leases

Samples of Oil Prospecting Licences and Oil Mining Leases as examples of the modern concession are provided here for the benefit of petroleum law draughts men and the petroleum law student. The provisions of Oil Prospecting Licences and Oil Mining leases are materially the same with Nigerian statutory law provisions on Oil Prospecting Licences and Oil Mining leases. Indeed, a petroleum lawyer may draft an oil prospecting licence and an oil mining lease from Nigerian statutory provisions on oil prospecting licences and oil mining leases. Provisions of Oil Mining leases of the U.S state of Michigan whose law on petroleum ownership is to some extent similar to that of Nigeria captured below prove the point made here.

State of Michigan Oil Prospecting Licences and Oil Mining leases Sample

This Lease, made and entered into this ... day of --- in the year ---

By and between the DIRECTOR OF THE DEPARTMENT OF NATURAL RESOURCES for the STATE OF MICHIGAN, hereafter called *Lessor* whose address is ... and BENGASIN PETROLEUM COMPANY LTD hereinafter called the Lessee whose address is ...

Witness, that the State of Michigan is the owner of all rights of any oil and gas lying within or under any of the land described below, and the Lessor has the authority to lease for the exploration, development, and production of any existing oil and gas therein.

The Lessor, for and in consideration of a cash bonus paid to it, and of the covenants and agreements herein contained on the part of the Lessee to be paid, kept and performed, does hereby lease, without warranty, expressed or implied, unto the Lessee for the sole and only purpose of drilling, boring, and operating for oil and gas, and acquiring possession of and selling the same, and for laying pipelines and building tanks, power stations, and structures thereon, necessary to produce, save and take care of such products.

Definitions

For the purposes of this Lease, the following definitions apply:

“Actual drilling operations” shall mean and be defined as actual drilling and penetration of strata in a continuous manner either by rotary, cable or combination drilling equipment to reach the objective formation at the intended depth as specified by permit and shall include drilling, completing, reworking, recompleting and deepening.

“Commercially Producing Well” shall mean a well capable of production in paying quantities.

“Commensurate royalties” means that amount of money which would fairly compensate the Lessor for any royalties lost due to drainage of oil and/or gas from the leased premises.

“DEQ” shall mean the Department of Environmental Quality.

“Development Plan” shall mean a plan to minimize negative impacts to the surface and shall include, but not be limited to, a complete copy of the proposed drilling permit application.

“Development Unit” shall mean the larger of (a) the Drilling Unit or (b) the unit voluntarily pooled, for the drilling of a single well.

“Drilling Unit” shall mean an area prescribed by applicable spacing regulations for the granting of a permit by the Supervisor of Wells for the drilling of a well.

“Extension fee” means a surcharge payment by the Lessee for the privilege of extending the primary term of the Lease for one (1) or two (2) years.

“Gas” means a mixture of hydrocarbons and varying quantities of non-hydrocarbons in a gaseous state which may or may not be associated with oil, including those liquids resulting from condensation, including but not limited to natural gas and casinghead gas.

“Gross Proceeds” means the total monies and other consideration accruing to an oil and gas Lessee for the disposition of the oil, gas, or plant products produced. Gross proceeds includes, but is not limited to payments to the Lessee for certain services such as compression, dehydration, measurement, and/or gathering which the Lessee is obligated to perform at no cost to the Lessor to place lease products in marketable condition.

“Lease Issue Date” shall mean the date that the Lease is acknowledged by the Lessor as set forth on Page 11 (signature page).

“Lease Products” means any leased minerals attributable to, originating from, or allocated to this Lease.

“Lessee” shall mean the person or entity who shall remain responsible for any and all covenants, express or implied, contained within the Lease regardless of any partial interest assignments.

“Marketable Condition” for gas means sufficiently free from impurities, except CO₂, H₂S and N₂, and otherwise in a condition that it will be accepted by a purchaser under a sales contract typical for the field or area.

“Marketable Condition” for oil means sufficiently free from impurities and otherwise in a condition that it will be accepted by a purchaser under a sales contract typical for the field or area.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods and which are not the result of condensation of gas after it leaves the underground reservoir, including but not limited to oil, casinghead gasoline, drip gasoline and natural gasoline extracted from natural gas.

“Paying quantities” shall mean a dollar amount sufficient to pay the day to day well operating costs and for which a reasonably prudent operator would, for the purpose of making a profit and not merely for speculation, continue to operate a well.

“Production Unit” is a Drilling Unit, or Development Unit, or Uniform Spacing Plan and, if agreed to by the Lessor, a Unitized Area consisting of one or more wells.

“Reasonably prudent operator” shall mean an operator that operates to maximize economic return to both Lessor and Lessee, taking into account market conditions, comparable production activities in the same field or area and all applicable regulatory conditions.

“Reclassification” shall mean the change of the classification in all, or a portion of, the lands contained within the Lease from non-development or development (including a subsection of development which may contain restrictions) as deemed appropriate by the Lessor when the existing classification is substantially in error or there is a change in circumstances subsequent to the Lease Date.

“Reclassification fee” means a surcharge payment by the Lessee for the privilege of modifying all, or a portion of, the existing classification of lands contained within the Lease.

“Supervisor of Wells” shall mean the Director of the Department of Environmental Quality or his/her designated representative.

“Unitization Agreement” is an agreement to consolidate acreage into a Unitized Area for the allocation of production on a basis as defined within the Agreement or Ratification as approved by the Lessor.

“Unitized Area” is the leased lands within the boundaries defined in the Unitization Agreement, or Ratification thereto, approved by the Lessor.

“Working Interest in the Lease” shall mean one or more individuals or entities who have obtained, with prior approval from the Lessor, an interest in the Lease to explore, develop, and produce the oil and/or gas under the leased premises.

Term of Lease

B1. Lease rights shall terminate and the Lessee shall be required to file a release with the Lessor as hereinafter provided whenever any rentals coming due under the Lease shall be and remain unpaid for a period of fifteen (15) calendar days after the rental becomes due.

B2. Unless terminated pursuant to B(1), it is agreed that this Lease shall remain in force for a primary term of five (5) years from the Lease Date and as long thereafter as oil and/or gas are produced by the Lessee in paying quantities from any Development Unit, Drilling Unit or, at the option of the Lessor a Production Unit, but only as to the lands included in the said unit.

B3. The Lessor agrees that it may grant to the Lessee an extension of the primary term of this Lease for not more than two one-year extensions. Such extension to the sixth and seventh anniversaries of the Lease Date as to any or all of the lands leased hereby will be considered upon written application by the Lessee and payment of an extension fee, regardless of whether the Lessee is engaged in actual drilling operations on any Development Unit or Drilling Unit containing lands leased hereby. The application must be submitted not sooner than the fourth anniversary of the Lease Date. The amount of the extension fee shall be established by the Lessor and the extension fee must be paid prior to the fifth anniversary of the Lease Date for the first one-year extension and prior to the sixth anniversary of the Lease Date for the second one-year extension. The extension fee established for the sixth year shall remain the same for the seventh year, if executed. If, during the extended term, oil and/or gas is found in paying quantities, this Lease, insofar as it affects lands for which an extension was granted, shall continue with like effect as if oil and gas had been found within the primary term first set forth in paragraph B(2).

B4. If the Lessee at the end of the fifth year of this Lease, or the first or second one-year extension granted under B(3), is engaged in actual drilling operations with respect to any well or wells on any Development Unit or Drilling Unit authorized which includes lands leased hereby, this Lease shall remain in force only on the lands included in such Development Unit or Drilling Unit so long as the actual drilling operations on the said well(s) is diligently prosecuted to completion within one year from the start of drilling of the said well. If oil and/or gas is found in paying quantities upon completion of such well(s), this Lease, only insofar as it affects land included within the said Development Unit or Drilling Unit, shall continue and be in force with like effect as if such well or wells had been completed within the primary term first set forth in paragraph B(2).

5. Notwithstanding anything to the contrary herein contained, actual drilling operations on or production from a Development Unit or units established under the provisions of J(7) shall maintain this Lease in force beyond the primary or extended term only as to land included in such unit or units. As to all other lands, this Lease shall expire under its own terms.

6. All applicable laws and rules are made a part and condition of this Lease. Violations of any of the applicable laws shall be considered a violation of the terms of this Lease and the Lessor, at its sole discretion, may invoke E(7), E(8), or E(9), or any combination thereof. No rules made after the approval of this Lease shall operate to affect the term of the Lease, rate of royalty, rental, or acreage, unless agreed to by both parties.

Economic Terms

C1. Rentals

The Lessee shall pay to the Lessor rental as follows:

- a. The Lessee shall be required to make annual rental payments during each year of this Lease, it being understood that the primary lease term commences on the Lease Date.
- b. Rental for each year of the primary term shall be paid at the rate of \$2.00 per acre per year. Should the primary term of this Lease extend beyond the fifth year under provisions of Section B of this Lease, the rental shall be paid at the rate of \$3.00 per acre for the sixth year, and \$4.00 per acre for the seventh year.
- c. A minimum rental of \$5.00 per year per Lease shall be paid by the Lessee on any Lease where rental payment herein specified shall be less than that amount.
- d. All rental, except for the first year of the Lease, shall be paid annually in advance of each anniversary of the Lease Date. Rental for the first year of the Lease shall be paid in conjunction with and at the same time as when Bonus payments are due.
- e. The Lessor's receipt and deposit of a late rental payment shall not constitute a waiver of, or otherwise affect, the Lease termination that shall automatically occur whenever any rental payment is unpaid for a period of fifteen (15) calendar days or more after the anniversary of the Lease Date.
- f. Each and every oil and/or gas well, producing in paying quantities, and paying royalties to the Lessor, shall abate the rental only on the leased premises situated within the established oil or gas Development Unit or Drilling Unit. At the Lessor's option, rent may be abated in accordance with specific terms contained within a Unitization Agreement which has been approved in writing by the Lessor. The abatement shall be effective on the rental due date following the rental period in which the abatement is granted.

C2. Royalties

The Lessee shall pay to the Lessor royalties as follows:

- a. The Lessee shall pay the Lessor a royalty equal to one-sixth (1/6) of the gross proceeds of sale of all oil and/or gas produced and saved in any combination from the leased premises as further set forth below.

- b. It is agreed that the Lessee is required to place lease products in marketable condition at no cost to the Lessor. The value of gross proceeds shall be increased to the extent that the gross proceeds have been reduced because the purchaser, or any other person, is providing certain services the cost of which is the responsibility of the Lessee to place lease products in marketable condition.
- c. At the sole option of the Lessor, and in lieu of royalty payments upon oil and/or gas produced and saved, the Lessee shall deliver to the credit of the Lessor free of cost the equal one-sixth ($1/6$) part of all oil and/or gas produced and saved under the terms of the Lease to facilities to which the wells may be connected.
- d. If payments specified are not made on or before the twenty-fifth (25) day of the first month following oil production sale or the second month following gas and/or plant products sale, the Lessor may claim default under the provisions of Section E(1) herein; in addition to any remedies available to the Lessor. Under the Lease, payments made after the due date shall include interest at the rate of one and a half percent (1.5%) per month, or at the maximum legal rate, whichever is less, on the amount of royalty unpaid. A full month's interest will be charged for late payments received during any portion of the month in which late payment is received.
- e. Should oil be produced from any well, the gross proceeds of sale of lease products of such oil shall be free to the Lessor of any cost to whichever point is first encountered: (1) the point of sale to an independent non-affiliated third party purchaser; or (2) the point of entry to an affiliated purchaser, provided the sale is at prevailing market rates; or (3) the point of entry into an independent non-affiliated third party owned pipeline system; or (4) the point of entry into an affiliate owned pipeline system, provided transportation rates are at prevailing market rates. Upon request by the Lessor, written justification of charges made by the Lessee must be submitted and agreed to in writing by the Lessor.
- f. Should gas, including casinghead gas, be produced and saved from any well, the gross proceeds of sale of lease products of the said gas shall be free to the Lessor of any cost to whichever point it is first encountered: (1) the point of entry into a facility to remove CO₂, H₂S, N₂ or obtain plant products, or (2) the point of entry into an independent non-affiliated third party owned pipeline system; or (3) the point of entry into a pipeline system owned by a gas distribution company, or any subsidiary of such gas distribution company which is regulated by the Michigan Public Service Commission; or (4) the point of entry into an affiliated pipeline system, if the rates charged by such pipeline system have been approved by the Michigan Public Service Commission, or if the rates charged are reasonable, as compared to independent pipeline systems, based on such pipeline system's location,

distance, cost of service and other pertinent factors. Upon request by the Lessor, written justification of charges made by the Lessee must be submitted and agreed to in writing by the Lessor.

- g. The Lessee agrees that all royalties accruing to the Lessor herein shall be without deduction of any costs incurred by the Lessee except as agreed herein. The Lessor is not liable for any taxes incurred by the Lessee and no deduction may be taken for any tax in computing the royalty. Lessor's royalty is to be free and clear of all costs, claims, charges and expenses of any nature, including third party post production costs on or off the premises except as herein provided, and except for the reasonable costs of CO₂, H₂S and N₂ removal, there shall be no deduction for the cost of gathering, separating, dehydrating, compressing or treating the gas to make it marketable. Unless otherwise specifically agreed in writing, there shall be no deduction for transportation costs prior to entry of gas into a pipeline system as set forth in C.2f (2) through (4).

C3. Royalties for Shut-in Wells and Wells Suspended from Operation Within fifteen (15) calendar days after the anniversary of the Lease Date when a producing well is shut-in or suspended from operation for a period greater than 180 continuous calendar days, the Lessee shall pay to the Lessor, for each acre of the leased premises located within the established oil and/or gas Production Unit, a sum equal to the rental rate applicable under the terms of C(1b). For each year thereafter, any shut-in rate shall increase an additional \$1.00 per acre per year. Such payment shall be deemed a royalty under all provisions of this Lease.

Terms for Shut-in Wells and Wells Suspended from Operation

D1. If a commercially producible oil and/or gas well completed on the leased premises, or on acreage pooled or consolidated with all or a portion of the leased premises into a Development Unit for the drilling or operation of such well, but only to the extent that the leased premises are included in the said Development Unit, is at any time shut-in, or operations are suspended due to action taken by the Supervisor of Wells, and no oil and/or gas therefrom is sold (or gas is used for the manufacture of gasoline or other products), subject to the conditions of this Lease, such shut-in well or well suspended from operation shall be deemed to be a well on the leased premises producing oil and/or gas in paying quantities, and this Lease shall continue in force provided that within thirty (30) calendar days from the date the Lessor's written request is mailed, the Lessee submits to the Lessor satisfactory documentation in support of the shut-in or suspended status.

D2. If an oil and/or gas well has been shut-in, or operations have been suspended by the Supervisor of Wells, and remains shut-in or suspended for a period of thirty (30) calendar days due to conditions or circumstances beyond control of the Lessee, the Lessee shall notify the Lessor in writing within fifteen (15) calendar days thereof, and

annually thereafter, stating the conditions or circumstances for the shut-in or suspended status and expected date of resumption of production. The Lessee must be able to demonstrate why the well is shut-in or suspended. In the event the Lessor shall determine, in its opinion, that such oil and/or gas can be marketed, the Lessor shall give notice to the Lessee in writing and the Lessee shall have thirty (30) calendar days from the date such notice is mailed in which to satisfy the Lessor. If the Lessee fails to satisfy the Lessor and reach agreement with the Lessor, the Lessor may, at its sole discretion, invoke Section E(9) of this Lease as herein provided.

D3. The Lessee shall at all times use reasonable diligence to produce and market oil and/or gas capable of being produced from such shut-in well.

Default of Lease

E1. In the event the Lessor shall determine a default in the performance by the Lessee of any express or implied covenant of this Lease, the Lessor shall give notice, in writing, by personal service or certified United States mail, return receipt requested, to the Lessee's last known address, specifying the facts by which default is claimed. Except as to rental and offset well requirements as herein provided, the Lessee shall have thirty (30) calendar days from the date such notice is mailed in which to satisfy the obligation of the Lessee, if any, with respect to the Lessor's notice.

E2. No tools, fixtures, machinery or other property of the Lessee shall be removed from the said premises, if any royalties, damages, or other payments are due to the Lessor, and all sums due on royalties, damages, or other payments, shall be a lien on all implements, tools, movable machinery, and all other chattels used in operating said property, and also upon all of the unsold oil and/or gas obtained from the land herein leased, as security for the payment of said royalties, damages, or other payments.

E3. The Lessee may remove all machinery and fixtures placed on the leased premises, including the right to remove casing from wells not productive of oil or gas in commercial amounts, provided, however, that the said Lessee has complied with and fulfilled all other provisions of the Lease as herein provided.

E4. Should the Lessee be prevented from complying with any express or implied covenant of this Lease, from conducting drilling operations thereon, or from producing oil and/or gas therefrom, after effort made in good faith, for any cause beyond the reasonable control of the Lessee, such as, but not limited to war, rebellion, riots, strikes, acts of God or an order or rule of governmental authority, then while so prevented, the Lessee's obligation to comply with such covenant shall be suspended upon proper and satisfactory proof presented to the Lessor in support of the Lessee's contention. The Lessee shall not be liable for damages for failure to comply therewith except in the event of lease operations suspended for wrongful acts or omissions of the Lessee. This Lease shall be extended as to such portion of the leased premises as, while, and so long as the Lessee is prevented, by any such cause, from drilling, reworking operations or producing oil and/or gas thereon or therefrom, provided, however, that

nothing herein shall be construed to suspend the payment of rentals during the primary or extended term. The Lessee is expected to make application for all separate written permissions required by governmental agencies, including but not limited to easements, drilling permits, and surface use permits, within reasonable time prior to expiration of the Lease, the lessee's obligations under this Lease shall not be excused by failure to make timely applications for permits, annual frost law road restrictions, winter snow conditions or other conditions which are reasonably foreseeable.

E5. As required by relevant Regulations, before a lease will be executed for oil and/or gas exploration, development, and production, the Lessee shall file with the Lessor a lease performance bond, in an amount established by the Lessor, to cover costs incurred by the Lessor due to breach of any clause contained herein by the Lessee, including but not limited to the costs of any enforcement actions necessary on the part of the Lessor, costs of any necessary environmental remediation, clean-up or site restoration and conditioned that the Lessee, its heirs, executors, administrators, successors, and assigns, shall faithfully perform the covenants, conditions, and agreements specified in the Lease, and the laws and rules of the State of Michigan which apply.

E6. The Lessee shall keep in full force and effect a sufficient lease performance bond to cover the acreage held under this Lease. If the amount of the lease performance bond in effect becomes depleted or partially depleted because of any claim or claims, the Lessee shall file a new or additional lease performance bond as required by the Lessor.

E7. The Lessor may invoke part or all of the lease performance bond when it determines that part or all of the covenants, conditions or agreement specified in the Lease are not being fulfilled. Invoking the lease performance bond is not necessarily related to any action taken by the Lessor under part E(1).

E8. In addition to invoking a part of or all of the lease performance bond noted under E(7), the Lessor, at the Lessor's sole option, may determine that the Lessee be placed on a "Hold Action" list until such time as any and/or all infractions by the Lessee have been resolved to the satisfaction of the Lessor. Placement on the said list may result in barring the Lessee from any further leases, assignments, easements, extensions or other approvals required by the Lessor. However, placement on the said list does not eliminate the Lessor's ability to forfeit any or all parts of said Lease under E9.

E9. If the Lessee fails to voluntarily satisfy the claim of default as herein provided relative to any condition or any express or implied covenants of this Lease, the Lessor may proceed, at its sole discretion, with forfeiture of all or part of the said leased premises in accordance with the provisions of the Public Act of 1929.

Assignments and Contracts

F1. It is expressly understood and agreed that no assignments of a working interest, of this Lease or any portion thereof, shall be valid except upon a written approval of

same by the Lessor, and upon payment of a fee as established by the Lessor. Failure to notify, provide supporting documentation, and obtain the Lessor's approval to assign any, or all, parts of the said Lease, shall constitute default that will result in the Lessor's ability to invoke Paragraph E7 E8 and/or E9 of the Lease.

F2. Assignments of the entire 100% working interest to all formations in any portion of the premises herein leased shall be construed as a separate lease agreement and not a part of the original Lease. Development on the assigned acreage, after the assignment has been made, shall not affect the rate of rental or term of the Lease on the unassigned acreage; and, conversely, development on the unassigned acreage, after the assignment has been made, shall not affect the rate of rental or term of the Lease on the assigned acreage. Where the Lessee assigns any interest in this Lease which is less than the entire 100% working interest to all formations in any portion of the leased premises, the Lessee shall remain responsible for any and all covenants, express or implied, contained within this Lease.

F3. If the estate of either party is assigned, the covenants hereof shall extend to their heirs, executors, administrators, successors, or assigns, but no change in the ownership of the land or the assignment of royalties shall be binding on the Lessee until after the Lessee has been furnished a written transfer or assignment or a copy thereof.

F4. Subject to Paragraph F(1), each and every clause and covenant in this Lease shall extend to the heirs, executors, administrators, successors, and assigns of the parties hereto.

Surface Damage Payments

G1. The Lessee shall pay or agree to pay to the surface owner, or any person holding under the owner, for all damages or losses (including any loss of the use of all or part of the surface), caused directly or indirectly by operations hereunder, whether to growing crops or buildings, to any person or property, or to other operations.

G2. Before a drilling permit application is submitted to the Supervisor of Wells relating to land in which the State of Michigan owns mineral rights only as described in this Lease, proof shall be submitted to the Lessor, in writing, that notification to enter the land has been provided to the surface owner and that either voluntary agreement or stipulated settlement relative to surface use and damages has been reached between the Lessee, or the Lessee's authorized agent, and the surface owner or G(3) is invoked.⁵

⁵ There is no provision like this in Nigerian oil mining leases. Provision will reduce environmental damage and conflicts with host communities. However, for there to be a provision like this in Nigerian oil mining leases, Nigerian law must explicitly concede surface rights to owners of land oil is found. In the state of Michigan, ownership of mineral rights is clearly separated from ownership of land surface rights. Thus while the state which owns mineral rights enters into a lease agreement with the lessee on mining of oil,

G3. When a mutually satisfactory agreement relative to surface use and damages cannot be reached, either party can inform the Lessor, in writing, that a dispute exists and the Lessor will grant a negotiation period of thirty (30) calendar days in which no drilling or development operations may be conducted by the Lessee. This time period is to allow for the resolution of the dispute. If, at the end of this period, proof of the agreement is not submitted in writing to the Lessor, drilling and development operations will not be prohibited by the Lessor and resolution of the dispute rests solely with the Lessee and the surface owner independent of the Lessor. It is the sole responsibility of the Lessee to ensure that the said thirty (30) day negotiation period is completed thirty (30) days prior to the expiration of the primary term or any extensions of this Lease.

Records and Logs

H1. The Lessee shall submit, upon request by the Lessor, an accurate log or record of each well in the format acceptable to the Supervisor of Wells and as provided for in the DEQ's Rules and Regulations under Part 615, 1994 PA 451, as amended.

H2. The Lessee shall keep an accurate account of all operations under the Lease, including production, sales, prices, and dates of same; and shall report to the Lessor on the twenty-fifth (25th) day of each month, the quantity produced by each producing unit in the preceding calendar month, the quantities delivered to pipeline companies, and the quantities otherwise disposed of from the premises herein leased. The Lessee shall install and properly maintain, at its expense, adequate and correct meters for the measurement of gas production and flows, and shall provide for verification of gas production and flows by an independent third party at the sole discretion and request of the Lessor.

H3. The Lessor shall have the right to examine the books of the Lessee insofar as they relate to the production, sale, and valuation of any oil, gas or other products derived from the premises herein leased. The Lessee shall provide monthly information such as production volumes, sale prices, remittance amounts, deductions and other information pertinent to the calculation and payment of royalties due to the Lessor in a format approved by the Lessor. The Lessee shall submit, upon request by the Lessor, copies of source documents, reports, contracts, schedules, and computations to support volumes, prices, costs, and other factors used to determine value and remittance.

H4. The Lessor, or the Lessor's designated agent, shall have free access to the leased premises for the purpose of inspection and examination.

the land surface owner enters into an agreement with the lessee on the use of the land surface by the lessee.

H5. The Lessee shall, at the sole discretion of the Lessor, submit to an audit of all transactions, contractual relationships, volume, production, flows, sales, valuation, or such other records as the Lessor may determine appropriate which are related to establishment of gross proceeds, deductions or any other types of payments due to the Lessor. The audit may be performed by the Lessor, or contracted for by the Lessor, at the Lessor's discretion. The Lessee shall be responsible for the cost of the audit

Environmental Terms

11. Any operations under this Lease shall be subject to all applicable Federal and State laws and rules now or hereafter in force. This Lease is not in itself an authorization to drill, and issuance of drilling permits for specific locations is subject to separate application and approval by the Supervisor of Wells.⁶ No operations shall take place on State-owned surface without separate written permission(s) required by the Lessor and/or any other State or Federal governmental agency. For lands under this Lease, the Lessee shall submit to the Lessor a complete copy of any application for permits to drill simultaneously with the submission of the application to the Supervisor of Wells. Each application shall identify the location of any State-owned surface lands contained within the proposed unit.

12. No operations shall take place in: (a) a wetland (as defined in Part 303 of 1994 PA 451, as amended);⁷ (b) habitat identified as critical to the survival of an endangered species and designated under provisions of Part 365 of 1994 PA 451, as amended;⁸ (c) a site designated by the Secretary of State to be of historical or archaeological significance; unless a plan can be mutually agreed upon by the Lessor and the Lessee to substantially eliminate negative impacts.

13. Notwithstanding areas identified in Section I(2), in areas identified by the Lessor as having special wildlife, environmental, recreational significance, and/or State surface, the Lessee agrees to submit and negotiate a Development Plan with the Lessor which will minimize negative impacts and will minimize surface waste while remaining consistent with the spacing requirements established by the Supervisor of Wells. The Development Plan shall be submitted to the Lessor simultaneously with the Lessee's submission of the drilling permit application to the Supervisor of Wells. Upon completion of a producible exploratory well, the Development Plan, if not already provided to the Lessor, shall be submitted thirty (30) calendar days prior to any further drilling permit applications or formation of the Production Unit. The Lessor reserves the right to exclude certain sites from drilling and/or production activities in

⁶ There is no provision like this in Nigerian oil mining leases. A provision like this will subject the lessee to better environmental performance.

⁷ This provision gives effect to the Convention on Wetlands of International Importance otherwise known as the Ramsar Convention, 1971

⁸ This provision gives effect to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) 1973

areas having special wildlife, environmental, or recreational significance, on State surface lands.

14. No well shall be drilled which is inconsistent with the Development Plan agreed to in I(3) or nearer than 1,320 feet to any lake or stream without the prior written consent of the Lessor. Great Lakes coastal shores shall be classified as non-development within 1,500 feet of the shoreline unless a written exception is granted by the Lessor. To obtain the Lessor's consent, the Lessee will be required to demonstrate to the Lessor that the non-conforming well location will result in less environmental impact.

15. The Lessee shall route all pipelines from the well site to follow existing well roads or utility corridors and shall bury all pipelines below plough depth, unless the Lessor authorizes an exception in writing.

16. Restoration shall be completed within nine (9) months of surface disturbance within the premises for well site(s), pipeline(s), road(s), and other oil and gas development activities unless otherwise specifically approved in writing by the Lessor's authorized representative. Restoration shall be pursuant to requirements identified within the Surface Use Permit, easement or other similar written permission for the development activity.

17. The Lessee, when surrendering this Lease, or portion thereof, or any well, shall leave the premises as required by applicable law and according to the terms and conditions of this Lease and terms of any prior written permissions from the Lessor, and in a safe and orderly condition. All debris and materials, such as timbers, boards, sheeting, tanks, pipe tubing, and any other equipment used in operating this Lease or a well, shall be removed from the leased lands when operations have ceased. Slush pits and burning pits shall be taken care of as required by applicable law and filled in. Upon failure of the Lessee to conform with these provisions, the Lessor shall have the right to enter on the property to repair damages and restore the property to a lawful, safe and sightly condition at the Lessee's cost or, at the Lessor's option, to invoke Paragraph E(7), E(8), or E(9). The Lessee may not escape any prior obligation of the Lease by surrendering this Lease, or any portion thereof.

Lessor's Rights

J1. The Lessor reserves the right to all minerals on, in and under the leased premises not herein expressly granted.

J2. The Lessor reserves the right to use or lease the premises, or any part thereof, at any time, for any purpose but not to the detriment of the rights and privileges herein specifically granted.

J3. The Lessor reserves the right to sell or otherwise dispose of the premises, or any part thereof, subject to the terms and conditions of this Lease.

J4. The Lessor shall not be liable for any damages resulting from failure of its title, or control of restrictions established by the State department or Federal governmental agency having jurisdiction over the surface of the leased lands, as either relates to rights included herein; provided, however, that if the Lessor's title or control fails as to any or all of the rights covered by this Lease, the Lessor shall refund to the Lessee all bonus, rental or royalty payments made by the Lessee attributable to that part or portion of, or interest in, the title or control which has failed. In the event of title dispute wherein the Lessor's claim to title prevails, the Lessor shall receive interest at the prevailing prime rate on all money withheld by the Lessee pending settlement of the title dispute.

J5. Should the Lessor be prevented from complying with any express or implied covenant of this Lease because of a force majeure (i.e., for any cause beyond the reasonable control of the Lessor such as, but not limited to, acts of God, legislation or rules of any governmental body, including budgeting constraints, any judgment of injunctive order entered by a court of competent jurisdiction, acts of the public enemy, riots, strikes, labour disputes, labour or material shortages, fire or flood) then such covenant shall be suspended to the extent made necessary by the aforesaid force majeure.

J6. The Lessor reserves the right to require the Lessee to drill and operate wells to offset producible wells on adjoining production units when the Lessor believes drainage is occurring, regardless of whether such adjoining units are owned or leased by the Lessee. If, within one hundred twenty (120) calendar days from the date notification from the Lessor is mailed pursuant to E(1), the Lessee fails to: commence drilling such offset well(s), or agrees to payment of and to commence payment of commensurate royalties on a monthly basis, or to submit reasonable proof to the Lessor that drainage is not occurring, the Lessor may require the Lessee to surrender a portion of the leased premises necessary to establish a Drilling Unit(s) for the drilling of offset wells. Offset wells shall be drilled to a depth not less than that of the producing formation of the adjoining well, and the drilling of such offset well or wells shall be prosecuted to completion in good faith. In the event the Lessee elects to make payment of commensurate royalties, the Lessee shall provide the Lessor with information in the Lessee's possession relevant to determination of the said royalties.

J7. For the purpose of oil and/or gas development and production under this Lease, the Lessor does hereby grant to the Lessee, the right to pool the said premises, or any part thereof, with other land to comprise an oil and/or gas Drilling Unit. The Lessee shall record in the Register of Deeds office in the county in which the said Drilling Unit is situated, an instrument identifying the unit so authorized, and a copy of the recorded instrument shall be filed with the Lessor within thirty (30) calendar days after recording. If such oil and/or gas well shall not be drilled on the leased premises but within the authorized Drilling Unit, it shall nevertheless be deemed to be upon the leased premises within the meaning of all of the covenants, expressed or implied, in

this Lease, but only to the extent that the leased premises are included within the Drilling Unit. The Lessor shall participate in the royalty from such oil and/or gas Drilling Unit, at the rate provided in the Lease, only in the proportion that the number of acres owned by the Lessor within the limitations of such Drilling Unit bears to the total number of acres included therein unless a substitute method is agreed to between the Lessee and the Lessor or established by the Supervisor of Wells.

J8. Unitization Agreements including acres under this Lease must be approved in writing by the Lessor. Participation in royalties from a unitized area, or rent abatements, shall be in accordance with the Unitization Agreement.

J9. The Lessor reserves the right, at its option, to renegotiate certain terms and conditions of the Lease as requested by the Lessor or Lessee.

Lessee's Rights

K1. The Lessee may surrender all or any part of the premises herein leased by giving notice in writing to the Lessor, provided however, that the Lessee may not escape any prior obligation of the Lease by filing a release. Upon surrender, the Lessee shall execute and deliver to the Register of Deeds, in the county wherein the land is situated, for recording, a proper and sufficient instrument of release of all of the Lessee's rights and interest under this Lease, insofar as they apply to the premises surrendered, and shall have the said instrument delivered to the Lessor within fifteen (15) calendar days after recording with the Register of Deeds. Failure of the Lessee to conform with the provisions of this Lease may result in the Lessor invoking Paragraph E(7), E(8), and/or E(9).

Reclassification of Land under Lease

L1. The Lessee understands and agrees that the Lessor may at any time prior to the start of actual drilling operations, reclassify this Lease as *non-development*. In the event of such reclassification, the Lessee agrees that its sole remedy, to the exclusion of any other at law or in equity, is to surrender this Lease or a portion thereof to the Lessor in exchange for a refund of all bonus and rental payments made by the Lessee attributable to the Lease or portion thereof surrendered. Where the land subject to this Lease is reclassified as *non-development* the Lessee at its option may be entitled to a refund equal to the difference between the average per-acre bonus paid for State development leases and for State *non-development* leases at the same sale in the same vicinity if the said *non-development* leases were sold for less than the development lease. Upon surrender, the Lessee shall execute and deliver to the Register of Deeds a proper and sufficient release of the Lessee's rights as set forth in Section K1.

L2. In the absence of alleged drainage and for *non-development* lease tracts other than those formally dedicated by the Lessor as State parks, State recreation areas, or wilderness and natural areas, the Lessor may grant a change of classification from a *non-development* lease, or tracts therein, to a development lease classification if the

Lessor finds that the existing *non-development* classification is in error or that there is a change in circumstances. In the event that a lease is reclassified as development, the Lessee shall pay compensation to the Lessor at least equal to the difference between the average per-acre bonus paid for State development leases and for State non-development leases at the same sale in the same vicinity.

L3. Notwithstanding the provisions of Section L, the Lessor shall not reclassify a lease as development if there will be impairment of any of the following: wetlands, endangered species habitat, historic, archaeological or cultural sites, areas of special wildlife, ecological or recreational significance.

The modern concession is everywhere. Joint Venture Agreements, Production Sharing Contracts, and Service Contracts between NNPC and international oil corporations are contracts founded on concessions granted by the Nigerian government to international oil corporations either in the form of oil prospecting licences or oil mining leases. Thus every Joint Venture Agreement, Production Sharing Contract, and Service Contract has a concession in its background. The concession is the foundation contract on which other contracts like Joint Venture Agreements or Production Sharing Contracts are founded.

Joint Venture and Joint Operating Agreements

Joint Venture Agreement

Joint Venture Agreement (JVA) is an agreement that is a sort of partnership under which both parties contribute to the ventured capital and are jointly liable in the event of loss. Joint Venture Agreement leads to Joint Operating Agreement (JOA).

Joint Operating Agreement

A Joint Operating Agreement (JOA) is made pursuant to a Joint Venture Agreement. It is the agreement that settles the operational details of the Joint Venture Agreement.

When concessions particularly of the traditional type fell out of favour with Nigerian government, the Nigerian government represented by NNPC opted for Joint Venture Agreements. Thus in order of adoption in Nigeria, Joint Venture Agreements were adopted before Production Sharing Contracts.

Joint Venture Agreements are the most dominant in the Nigerian oil and gas industry. By 2013, they accounted for over 90% of total oil and gas production in the country.¹ In the several Joint Venture Agreements that NNPC has entered into with International Oil Corporations operating in the country, NNPC always hold 60% of the equity shareholding while the IOCs hold 40%. As earlier stated, after entering into a Joint Venture Agreement, the Joint Venture partners will then enter into a Joint Operating Agreement (JOA) that settles the operational details of the Joint Venture. Fundamental provisions of a JOA between NNPC and international oil corporations include appointment of an operator, formation of operating committee, funding of joint operations, payments to government, reports and dealings with government, training and assignment of NNPC staff, disposal of crude oil, governing law, force majeure, notices etc. A prototype Joint Operating agreement between NNPC and international oil corporations will contain key provisions as below produced.

Appointment of Operator

1. The parties shall agree on operatorship of the concessions and Contract Area under this Agreement and the designated operator shall assume the duties and obligations of the operator, and shall have all the rights of the operator, hereunder.

¹ www.eia.gov/country, visited 19/11/2013

2. Operator's Right, Powers and Responsibilities

The operator shall conduct all Joint Operations with utmost good faith and in a good and workmanlike manner in accordance with good industry practice and the applicable Regulations shall apply to all operations hereunder.

2.1. The Operator shall not be liable for any loss or damage which results from Joint Operations unless such loss or damage results from wilful misconduct on the part of the Operator, its servants or agents. PROVIDED, that under no circumstances shall the Operator be liable to the Non-Operator for reservoir damage or pollution or for any consequential losses or damages whatsoever or howsoever occurring including, but not limited to, lost production or lost profits. By this proviso, the operator will be free from liability to the non-operator even when the operator's negligence, or carelessness leads to reservoir damage or pollution, causes loss of production or profit to the non-operator.

It is submitted that above provision is an unfair provision to the non-operator that should be expunged from JOA. The operator should indemnify and hold the non-operator harmless from his negligence or recklessness that leads to reservoir damage or pollution or causes loss of production or profit to the non-operator.

2.2 The Operator shall consult freely with, and make full and frank disclosure to, the Non-Operator concerning Joint Operations and keep it currently advised of all matters of importance arising in connection therewith.

2.3 Except as otherwise provided in this Agreement or as may be authorized by the mutual agreement in writing of the parties, the Operator shall not permit or suffer any lien or other encumbrance to be filed or to remain against any material, physical equipment, real or personal property thereon or related thereto, nor against petroleum produced and saved as a result of its operations hereunder, unless there is a bona fide dispute with respect thereto.

2.4 The Operator shall select its employees for the purposes of the Joint Operations and determine their number, qualifications, hours of labour and compensation. Such employees shall be employees of the Operator and not of the Non-Operator.

2.5 The Operator shall have the right to assign and retain such technical, administrative and supervisory personnel and consultants as may be necessary for the conduct of Joint Operations.

2.6 The Operator shall, with the written consent of the Non-Operator, have authority to enter into agreements with third parties for use, by the third parties, of facilities of the Joint operations provided that no right of enjoyment of the Non-operator shall by such third parties agreement be diminished in any material respect.

2.7 The Operator shall have the authority, subject to any limitations or restrictions imposed by the Operating Committee, to enter into any contract or place any purchase order, in its own name on behalf of the Joint Account, for the performance

of services or the procurement of facilities, equipment, materials or supplies; provided that:

- i. In the case of foreign contracts and foreign purchase orders, the cost for contracts or of purchase orders with third parties shall not exceed \$400,000.00 without prior concurrence of the Operating Committee;
- ii. In the case of local contracts and purchase orders, the cost shall not exceed ₦2,000,000.00 without concurrence of the Operating Committee. This amount herein will be reviewed by the Operating Committee in the event of a significant change in the exchange rate of the naira to the dollar compared to that which existed on the Effective Date of the agreement;
- iii. Such contracts shall be entered into, and such purchase orders shall be placed, with third parties which in the Operator's opinion are technically and financially able to perform properly their obligations;
- iv. Procedures customary in the oil industry for securing competitive prices shall prevail unless compelling reasons to the contrary exist;
- v. The Operator shall give preference to a contractor that is a company organized under the laws of Nigeria to the maximum extent possible, provided there is no significant difference in price or quality between such contractor and other contractors; and
- vi. The above limits and the procedures shall not apply to purchases made on established maximum and minimum stock levels, nor shall they apply to the purchase of heavy machines made in furtherance of planned drilling programmes.

2.8 The Operator shall keep accurate records and books of accounts with respect to the Joint Operations, which shall be available during normal business hours to the Non-Operator's authorized representatives.

2.9 The Operator shall promptly provide the Non-Operator with copies of all approved Authorization for Expenditure (AFE). The Operator shall promptly supply to the Non-Operator, as soon as available, the following information and data.

- i. A copy of all logs and surveys made including a complete log, electrical or otherwise, of each well from surface to final depth;
- ii. A copy of all drill stem tests and analytical reports including, without limitation, bottom hole or recombined fluid sample analyses, descriptions of core and cuttings, samples of analyses, Crude Oil and or Natural Gas analyses and all data obtained and interpretations thereof;
- iii. A copy of the plug-back record in the event that any well or part thereof is abandoned;
- iv. A copy of the final geological report and the drilling, completion and work-over report on all wells;

- v. Copies of all geological and geophysical surveys and reports, maps relating to drilling proposals and final well reports made by the Operator or its contractors;
- vi. Field and well performance data;
- vii. Monthly statements of Petroleum won and saved from the Contract Area including Crude Oil stocks and tanker loadings;
- viii. Weekly well progress reports which include, for the week concerned, a brief description of the work performed, the interval drilled, the type of landed depth of any casing, the type and results of any tests made, and such other well information and data as each Party may, from time to time, reasonably specify; and
- ix. Such additional reports as the Non-Operator may require including a copy of all reports on technical studies and research conducted or commissioned by the Operator and its Affiliates in respect of Joint Operations for the Joint Account.

2.10 The Operator shall keep available in Nigeria, for use of the parties hereto, sacked and marked samples of all formations encountered and seismic data obtained, until such time as the Operating Committee authorizes their disposal.

2.11 The Operator shall carry out the decisions of the Operating Committee. The Operator shall be responsible, subject to the Budgets, for acquiring any surface rights and rights-of-way required for the Joint Operations.

3. Cessation of Operatorship

3.1 The operator shall cease to be the operator and shall be removed by the Non-Operator in any of the following circumstances, namely, if:

- i.
 - (a) The operator assigns or purports to assign, other than to an Affiliate;
 - (b) The Party acting as the Operator (or any Affiliate of the operator, which is a party) assigns or otherwise disposes of, other than to an Affiliate, its Participating Interest.
- ii.
 - (a) A petition is presented to and agreed to be heard by a court, or an order is made by a court, or an effective resolution is passed or legislation is enacted, for the dissolution, liquidation or winding up of the Operator;
 - (b) The Operator makes assignment for the benefit of creditors;
 - (c) A receiver is appointed or a mortgagee takes possession of the whole or a material part of the assets or undertakings of the Operator; or
 - (d) The operator is proved, pursuant to a decision of a Court of Law, to have committed wilful misconduct;
- iii. The Operator becomes insolvent or ceases or threatens to cease to carry on its business or a major part thereof or a distress, execution or other process is levied or enforced on or against any significant part of the chattels or

property of the Operator and is not discharged within fourteen (14) days, provided, however, that the Non-Operator is not in breach of this Agreement; or terminates its corporate existence other than in the case of a merger or amalgamation or the Operator makes any assignment for the benefit of creditors; or

- iv. The Operator allows any final judgment to be filed without recourse to further appeal whereby the Operator is required to hold, dispose of or convey its entire Participating Interest, or portion thereof, in the Joint Property or the Concessions to or for the benefit of a Third Party.

In the event that the Operator commits any material breach of, or fails to observe or perform, any material obligation contained in this Agreement, the operator may also be removed by the Non-Operator giving notice in writing to the Operator, (details of such breach or failure to be specified in the notice), provided that such removal shall not become effective:

- i. If, within twenty-eight days of receipt of the said notice, the operator takes steps to remedy such breach or failure and thereafter, with all due diligence, remedies the same within such time as is reasonable in all the circumstances;
- ii. If the operator disputes that it has committed such breach or failure and within twenty-eight days of receipt of the said notice gives notice in writing to the Non-Operator that it requires the matter to be referred to arbitration.
- iii. Until ninety (90) days from an arbitration determination that the operator has committed such breach or failure; or
- iv. Until sixty (60) days from the date of the notice given by the Non-Operator to the Operator where the Operator has not referred the dispute to arbitration or has not taken steps to remedy such breach or failure.

4. Resignation of Operator

4.1 The Operator may at any time, resign its Operatorship upon giving six (6) months prior notice to the Non-Operator. In the event of any such resignation, the Operator shall not be relieved of responsibility for Joint Operations until the Date of Cessation.

4.2 The resignation of Operator shall be without prejudice to any of Operator's rights, obligations or liabilities which accrued during the period when the Operator acted as such.

4.3 If the Operator resigns as aforesaid, it shall be entitled to charge to the Joint Account the costs and expenses approved by the Operating Committee incurred in connection with the change of operatorship. Such approval shall not be unreasonably withheld.

4.4 The Operator's right of resignation as provided above shall be without prejudice to its right to retain its participating Interest in the concessions, assets and working

capital, including such of its rights, benefits, duties and obligations as are not related to or are not on account of its being the Operator under the Agreement.

5. Appointment of Successor Operator

5.1 In the event the Operator resigns, unless the Parties agree to appoint a third party as Operator, the Parties shall appoint the Non-Operator as successor Operator to take over the Operatorship upon the effective date of the original Operator's resignation or any earlier date as may be mutually agreed by the Operator and the Non-Operator. In the event the Non-Operator is to become the successor Operator, it shall be entitled to nominate an affiliate of the Non-operator in lieu of itself whereupon such Affiliate shall be bound by the provisions of this Agreement. If the Parties agree to appoint a third party as a successor Operator such third party not being an Affiliate of either Party, such third party prior to commencement of its operatorship shall enter into an agreement with the Parties to be bound by this Agreement in respect of the performance of its duties as Operator. Thereafter, this Agreement shall apply mutatis mutandis to such third party.

6. Change of Operatorship, Transfer of Property on Change of Operator

6.1 Upon the effective date of Operator's removal, the outgoing Operator shall deliver and/or transfer to the successor Operator:

- i. Possession of the wells belonging to the Joint Operations;
- ii. Possession of all other Joint Property including all equipment, inventories and funds held for the Joint Account, together with all production, if any, which has not been delivered in kind;
- iii. Possession of pertinent books of account and records maintained for the Joint Operations; and
- iv. Possession of all documents, agreements and other papers relating to the Joint Operations.

6.2 Subject to surrendering possession of the above properties, the outgoing Operator shall be released and discharged with respect to those obligations and liabilities which accrued after the Date of Cessation, provided that the Operator shall be liable for any obligations and liabilities arising solely from its failure to disclose any matters that ought to have been disclosed to the Non-Operator prior to the Date of Cessation.

6.3 All expenses incurred in connection with the change of Operatorship including the deliveries and transfers shall be for the Joint Account.

7. Audit of Accounts on Change of Operator

7.1 If the Operator resigns, the Non-Operator shall, not later than sixty days prior to the effective date of the change of Operator, cause an audit to be carried out on the books of account and records of the Joint Operations.

8. Disposal of Joint Property by Operator

8.1 The Operator shall not, without the written approval of the Operating committee, dispose or sell any Joint Property costing more than N1,000.000 per unit or batch or such other value as may, from time to time, be determined by the Operating Committee.

9. Use of a Party's Equipment by Operator

9.1 The Operator may utilize in Joint Operations, equipment exclusively owned and made available by a Party and the charges therefore to the Joint Operations shall be as specified in the Accounting Procedure.

10. Operator's Business and Activities Outside the Joint Operations

10.1 Where the Operator engages in activities or business outside the Joint Operations, not being a Sole Risk Operation, the Operator shall make a prior disclosure to the Non-Operator of the facilities, assets and personnel, if any, as may be common to the Joint Operations for the purpose of apportioning the common costs relating thereto.

11. Operating Committee, Its Establishment, Powers and Duties

11.1 An Operating Committee shall be established within thirty days from the Date of Execution of the Joint Operating Agreement for the purpose of providing overall supervision, control and direction of all matters pertaining to the Joint Operations. Without limiting to the generality of the foregoing, the powers and duties of the operating committee shall include:

- i. The approval, revision, or rejection of all proposed programmes and budgets;
- ii. The determination of the selection, scope, timing and locations of all wells and facilities for Joint Operations and of any Change in the use or status of any such wells and facilities;
- iii. The consideration and decision on matters relating to any addition to or reduction of, the Contract Area;
- iv. Settlement of claims and litigation in excess of Four Million Naira or the equivalent thereof in other currencies, insofar as such claims are not covered by policies of insurance maintained for the Joint Account;
- v. The consideration and determination of all matters relating to the general policies, special studies, research, procedure and methods of the Joint Operations;
- vi. The abandonment and salvage of Joint Property or any portion thereof;
- vii. Ensuring that the operator carries out the decisions of the Operating Committee.

12. Members and Function of the Operating Committee

12.1 The Operating Committee shall consist of ten persons appointed by the Parties as follows:

NNPC 6

IOC 4

12.2 Each party shall designate by notice in writing to the other Party, the names of its representatives to serve as members of the Operating Committee and their respective alternates, which representatives and alternates shall be authorized to represent and bind that Party with respect to the decisions of the Operating Committee. Such notice shall give the names, titles and addresses of the designated representatives and alternates.

12.3 Any representative or alternate designated and appointed to serve on the Operating Committee may be changed from time to time by his principal designating a new representative or alternate, and notifying the other Party in writing not less than ten days in advance of the effective date of such change. The Non-Operator shall appoint the Chairman of the Operating Committee and the Operator shall appoint the Secretary, who need not be a member of the Operating Committee. The Secretary shall keep minutes of all meetings and records of all actions and decision of the Operating Committee. Within fourteen days after each meeting, the Secretary shall forward drafts of the minutes to the Parties. Within seven days thereafter each Party shall return the minutes with its comments to the Secretary who shall within seven days thereafter forward the final draft to the Parties. The minutes of each meeting shall be approved by the Operating Committee at the next meeting and copies thereof shall be furnished to the Parties.

12.4 The Operating Committee shall:

- i. Consider, revise, approve, or disapprove all programmes and budgets;
- ii. Consider and approve the sale or disposal of any items of Joint Property in accordance with the provisions of the Uniform Accounting Procedure
- iii. Consider and approve the sale or disposal and exchange of information to third parties other than routine exchange of seismic data and other such data commonly exchanged within the industry; and
- iv. Consider, and determine any other matter relating to the Joint Operations which may be referred to it by any Party.

13. Meetings

13.1 Not later than the 28th day of February of each year, the chairman shall prepare and forward to the members of the Operating Committee, a Calendar of meetings as agreed by the Operating Committee for that year.

13.2 Unless otherwise agreed by the Parties, the Operating Committee shall meet at the head office of the Operator once every four Calendar months, or at such other intervals or venue as may be agreed by the Operating Committee and, in addition,

whenever requested by any Party by giving at least fourteen days notice in writing to the other Party which notice shall specify the matter or matters to be considered at the meeting.

13.3 The chairman of the Operating Committee can also summon emergency meetings for which no specified notice period shall be required.

14. Quorum

14.1 The quorum for any meeting of the Operating Committee shall be five of which three (3) shall be representatives of NNPC and two (2) shall be representatives of the IOC

14.2 The secretary shall convene all meetings of the Operating Committee other than the emergency meetings.

15. Procedure

15.1 Except as may be expressly provided for in this Agreement, the Operating Committee shall determine and adopt rules to govern its meeting procedures.

15.2 Representatives attending a meeting of the Operating Committee may be accompanied by advisors, and the Chairman may be accompanied by additional experts to the extent reasonably necessary to assist with the conduct of such meeting. Such advisors and experts shall not vote or in any way participate in decisions, but may contribute in a non-binding way to discussions or debates of the Operating Committee.

15.3 At the commencement of any meeting of the Operating Committee where there is a quorum, each party shall nominate one of its representatives who shall exercise its voting rights.

15.4 All decisions of the Operating Committee shall be made by the unanimous vote of the Parties

15.5 The parties shall be bound by, and abide by, each decision of the Operating Committee duly made in accordance with the provisions of this Agreement.

16. Decision without a Meeting

16.1 Any matter which is within the powers and duties of the Operating Committee may be determined by the Operating Committee without an Operating Committee meeting if such matter is submitted by the Chairman, on his own initiative or at the request of any Party or, in the case of urgent matters, by the Operator, by way of notice to all of the Parties, provided that the Chairman or the Operator, as the case may be, includes with such notice, sufficient information regarding the matter to be determined so as to enable the Parties to make an informed decision with respect to such matter.

16.2 Except for urgent matters, each party shall cast its vote with respect to such matter within twenty-one days of receipt of such notice and such matter shall be determined as the operating committee deems fit unless a Party objects, within seven days of receipt of such notice, to having the matter determined in the manner chosen by the operating committee.

16.3 Each Party shall nominate one of its officers as its representative from whom the Operator may by telephone, fax or email or in person seek binding decisions on urgent matters, such as but without limitation to ongoing drilling operations and the parties shall advise each other in writing of the persons so nominated and any changes thereof.

17. Sub-Committees

17.1 The Operating Committee shall from time to time establish any advisory Sub-Committee as it considers necessary on Exploration, Technical, and Finance/Budget etc.

17.2 Each Sub-Committee established pursuant to this clause shall be given terms of reference and shall be subject to such direction and procedures as the Operating Committee may give or determine.

17.3 The Operating Committee shall establish the Sub-Committees and appoint the Chairmen of such Sub-Committees.

17.4 The deliberations and recommendations of any Sub-Committee shall be deemed advisory only and shall become binding or effective upon the Parties only when the same shall have been accepted by the Operating Committee.

18. Time Table for work Programmes and Budgets

18.1 The Operator shall develop and submit to the chairman of the Operating Committee the proposed work programmes and budgets required herein. Not later than 28th February of each year. The Chairman of the Operating Committee shall circulate to all parties the timetable for consideration and approval.

19. Rights of the Parties

19A. Access

19A.1 The Non-Operator shall have free access, at all reasonable times, to all information pertaining to the Joint Operations and to wells drilled, production won, saved and lifted and to the books, records and vouchers relating thereto.

19A.2 The Operator shall afford the Non-Operator free access to the Contract Area at all reasonable times with the right to observe any and all Joint Operations being conducted and to inspect all Joint Property therein provided that such right of access shall not be exercised so as to unreasonably interfere with Joint Operations and provided that such access shall be at the expense of the Joint Account. Also such access

shall be at the risk of the Non-Operator to the extent that it is not covered by Joint Account insurance.

19A.3 The Non-Operator shall always give to the Operator reasonable prior notice of its intention to exercise its rights of access.

19B. Technology, Data, Patents and Patent Rights

19B.1 Technology, data, proprietary information and inventions, whether patentable or not, and patents based on such inventions, which arise out of, or are paid for, by the Joint Operations shall be Jointly owned by the parties in proportion to their Participating Interest or shares.

19B.2 Where patentable processes, methods, procedures discoveries, inventions or equipment arise wholly out of the Joint Operations, the Operator shall apply for, or cause its Affiliate or any third party concerned to apply to be assigned the patents and patent rights therefor.

19B.3 Any application for patents and patent rights shall be in accordance with the instructions of the Operating Committee and such patents and patent rights when obtained, shall be for the Joint Account.

19B.4 Where Patentable Processes arise partly out of the Joint Operations, the operator shall use its best endeavours to obtain, for the Joint Account, patents and patent rights therefor to the extent of the contributions made from the Joint Operations.

19B.5 The Parties agree to arrange for their employees who make such inventions to provide the necessary assistance and to sign the necessary documents as required for filing patent applications and maintaining patents for such inventions.

19B.6 Each Party shall retain for itself and its Affiliates, an irrevocable, non-exclusive, license free of royalty or any other charge to use and have used, in its own operations throughout the world, all patents and patent rights including all technology, technical knowledge, proprietary information, data, inventions, and copyrights arising therefrom.

20. Funding of Joint Operations

20A. Sharing of Funding

20A.1 Each party shall contribute its Participating Interest share of all funds required for the Joint Operations. All costs and expenses of Programmes and Budgets and all credits with respect to Joint Operations shall be ascertained, computed and allowed and otherwise accounted for in accordance with the provisions of the Uniform Accounting Procedure.

20A.2 The budgets and programmes submitted for the prosecution of work programmes shall contain properly itemized and detailed estimates of the costs of such programmes, which costs shall include:

- i. A charge in an amount to cover administrative and overhead expenses charged to the Operator by the head office of the Operator's parent company (hereinafter called "Head Office Overhead Charge"). Such charge shall be calculated by applying the following percentages to the total capital Expenditures charged to the Joint Account for the relevant year as follows:

First US\$200,000,000.00	-	-	1.75%
Next US\$200,000,000.00	-	-	1.25%
Next US\$500,000,000.00	-	-	1.0%
Over US\$700,000,000.00	-	-	0.75%

- ii. The cost and charges for specific projects or studies carried out for the Joint Account by Operator's Affiliates; and
- iii. The costs and charges for specific projects or studies carried out for the Joint Account by Non-Operator or any of its Affiliates.

20A.3 The Operator may also submit to the Non-Operator any proposed revision or additions to the proposed programme and budget.

20A.4 The proposed programmes and budgets shall be subject to the consideration, revision and approval by the Operating Committee.

20A.5 All programmes and budgets shall be subject to revision by the Operating Committee from time to time.

20A.6 In the event of an accident or other emergency where the operator takes such action as, in its judgment, is required for the protection of life and property or the prevention of pollution, the Operator may incur for the Joint Account all necessary costs, expenses and commitments in connection therewith. The Operator shall notify the Non-Operator within 48 hours of any such occurrence and as soon as possible and thereafter provide a report of the circumstances, any commitment incurred or to be incurred, and actions taken.

21. Cash Calls

21.1 Each Party shall pay its Participating Interest share of all costs and expenditures incurred for the Joint Account and such payment shall be made in accordance with the following procedure:

21.2 The Operator shall, not later than ten (10) days prior to the first day of the Cash Call Month, submit to each party:

- a) An itemized estimate of such cost and expenditures (hereinafter referred to as the "Estimated Expenditures"), as well as an itemized return of the actual expenditures for the month (hereinafter referred to as the "Actual Expenditure Month") which is two months preceding the Cash Call Month.

- b) An itemization of the cash available or cash deficit in the Joint Bank Account as the case may be as of such date as well as any credit expected to be received in the Cash Call Month; and,
- c) Such Party's Cash Call for that month which shall be its Participating Interest share of Estimated Expenditures adjusted by the cash or deficits and credits in b) above.

21.3 Each Party shall pay its respective Cash Call into the Joint Bank Account not later than the Due Date, which is the first day of the Cash Call Month.

21.4 The Non-Operator may dispute a Cash Call on the basis that the Operator's Estimated Expenditures for the Cash Call Month exceeds what costs and expenditures should reasonably be incurred for the Joint Account for that month based on the approved programme and Budget and the total of all Actual Expenditures to date applicable to such Program and Budget after adjusting the Budget for any cost overruns permitted or approved pursuant to the limit permitted.

21.5 In the event that the Non-Operator so disputes any portion of a Cash Call, the Non-Operator shall give to the Operator a notice in writing specifying the amount in dispute and the reason therefor not later than eight days from the date of receipt of such Cash Call.

21.6 The Non-Operator may not, however, dispute any portion of a Cash Call required for the protection of life and property or for the prevention of pollution

21.7 The undisputed portion of the Cash Call shall be paid by the Non-Operator into the Joint Bank Account not later than the Due Date and the Parties shall use their best endeavors, to resolve the matter on the disputed portion promptly.

21.8 Upon settlement, the disputed portion or amount agreed, as the case may be, shall be paid by the Non-Operator into the Joint Bank Account not later than the due date.

21.9 Unless otherwise agreed, each party shall pay its Cash Call entirely in the currency of the Cash Call.

22 Payments for Joint Operating Expenditures

22.1 Except as may otherwise be agreed by the Parties, all payments for Joint Operating expenditures shall be made solely from the Joint Bank Accounts and/or the Joint Petty Cash Account

23 Cash Call Crude

23.1 A Party shall have the option of paying its cash call in kind by not less than sixty Calendar days prior to the Cash Call Month issuing a Cash Call Crude Notice notifying the operator of its intention to do so and by assigning to the Operator in such Notice such Party's right to lift in the Cash Call Month a portion of its Participating Interest share of the commercial Production Quota of Crude Oil for

such month equivalent in value to the amount of such Party's Cash Call (hereinafter called the "Cash Call Portion").

23.2 The Operator shall, upon receipt of a Cash Call Crude Notice, promptly provide the party giving the Notice an estimate of such Party's Cash Call for the Cash Call Month to which the Cash Call Crude Notice applies. The purpose of such Cash Call Estimate is to provide a basis for determining the Cash Call Portion.

23.3 The value of the lifting for the purpose of estimating the Cash Call portion shall be based on the spot price for the relevant grade or its equivalent as published in Platt's Oilgram² on the Date prior to the Date of the Cash Call Crude Notice.

23.4 The assignment of the Cash Call Portion shall be made by way of the Party in question specifying in its notice and permitting the Operator to lift, in its stead, a quantity of liftings which such Party has scheduled or would otherwise schedule for the Cash Call Month.

23.5 The Operator shall apply the proceeds of such liftings to meet such Party's Cash Call and the excess, if any, (after deducting interest on the amount of the Cash Call at the Bank Rate accruing between the Cash Call Due Date and the date of payment by the buyer of such crude) shall be paid into a bank account specified by such Party's next Cash Call.

24. Failure of a Party to Pay or to Provide for Payment of a Cash Call

24.1 If a Party fails to provide a Cash Call Crude Notice and fails to meet its Cash Call by the Due Date specified, such Party shall become an "Overdue Party."

24.2 An overdue Party shall be deemed to have transferred and assigned to the operator a portion of its Participating Interest share of the Commercial Production Quota of Crude Oil for the Cash Call Month equivalent in value to the amount of the overdue Party's Cash Call (hereinafter referred to as *the Overdue Portion*). The value of the lifting for the purpose of estimating the overdue portion shall be based on the relevant grade of Crude Oil as published in Platt's Oilgram on the date prior to the Due Date of such Cash Call.

24.3 The Operator shall have the right, after consultation with the overdue Party, to make a quantity of the liftings, which such Party has scheduled for the Cash Call Month equal to the Overdue Portion.

24.4 The Operator shall apply the proceeds of such liftings to meet the Overdue Party's Cash Call and the excess, if any, after deducting interest on the amount of the Cash Call, at the Bank Rate, accruing between the Due Date of the Cash Call and the date payment is made by the buyer for such Crude Oil.

² Platt's oilgram is an oil price reporting firm or agency.

24.5 If the liftings available to the Operator pursuant to a Cash Call Crude Notice are inadequate to meet an Overdue Party's Cash Call or Cash Calls, then the Overdue Party shall be deemed to be in default of this Agreement.

24.6 The Operator shall, as soon as practicable, notify the defaulting Party in writing and, unless otherwise agreed, request an emergency meeting of the Operating Committee to consider the default situation. The matter of the default and the remedy thereof shall be discussed in full at, and constitute the sole agenda of such a meeting. The decision, if any, of the Operating Committee regarding the resolution of the default situation shall be binding on the Parties.

24.7 The defaulting Party shall pay interest on the amount in default to the Non-defaulting Party at the Bank Rate.

24.8 During the continuance of any default, the defaulting Party's Participating Interest share of any Joint Account credits shall be used to offset the amount due from the defaulting Party.

24.9 In the event a Party remains in default as aforesaid for more than two months, such Party shall be deemed in substantial breach of this Agreement, and the Party not in default shall have the right to pursue any remedy accorded it by the agreement or the general law. In particular, the Party not in default shall have the right, where it is the Operator, to suspend or curtail Joint Operations including those relating to the defaulting Party's Participating Interest share of the Commercial Production Quota to the extent, in its sole opinion, it deems necessary under the circumstances, and where it is the Non-Operator, to suspend payments of its Cash Calls; provided, in each case, that the party not in default first notifies the applicable Governmental authorities.

25. Financial Reports and Returns

25.1 Within sixty (60) days from the end of each month, the Operator shall submit to the other Party a statement of the accounts for the month in the format provided in the Uniform Accounting Procedure. Within 60 days from the end of the quarter, and 90 days from end of the year, respectively, the operator shall submit to the other Party the accounts for the quarter and the year as the case may be, in the format provided in the Uniform Accounting Procedure.

25.2 The tax data shall be submitted to both Parties within 90 days of the end of each year.

25.3 In making any returns, the Operator shall not omit or delete any item of the Budget without the prior written approval of the Operating Committee.

25.4 The Uniform Accounting Procedure may be amended from time to time as may be mutually agreed, in writing, by the Parties.

26. Internal Audits

26.1 The Operator shall establish an effective internal audit system in respect of the Joint Operations in accordance with good management practice in the oil industry. The Non-Operator shall have access to all internal Audit Reports and replies thereto in respect of the Joint Operations.

27. Audits of Joint Account

27.1 The Non-Operator may carry out or cause to be carried out, for its account at all reasonable times during office hours, periodic audits of the books of account and all records relating to the Joint Operations.

27.2 Any discrepancy in the accounts may be queried within thirty-six months from the date of receipt of the accounts by the Non-Operator. This time limitation does not apply in the case of fraud.

27.3 Notwithstanding that the said period of thirty-six months may have expired, if evidence exists that the Operator has been guilty of Wilful Misconduct, the Non-Operator shall have the right to conduct further audit to the extent required to investigate such conduct in respect of any earlier periods.

27.4 All bank transactions in foreign and local currencies shall be made through bank accounts opened and maintained by the Operator exclusively for the Joint Operations. The Operator shall verify, obtain and forward to the Non-Operator, on a monthly basis, copies of Joint Bank 27.5 Account statements for the preceding month, accompanied by copies of relevant reconciling documents, not later than the 21st day of the following month. The Operator shall verify all credits and debits relating statements of balances in the Joint Bank Accounts directly to the Non-Operator. A Joint Petty Cash Account may also be established by the operator for the Joint Operations.

28. Payments to Government

28A. Rates, Taxes and Charges

28A.1 The Operator shall pay, and charge the Joint Account in proportion to each Party's Participating Interest, concession rentals, royalties, bonuses and taxes.

28A.2 The payments shall be made to the Government, or any state or local government, or other sub-division of the Federal Republic of Nigeria.

29. Sole Risk Operations

29A Sole Risk Operations

29A.1 Sole Risk Operations *shall only include and be undertaken in* respect of any one or more of the following activities:

- a. Any field exploration activity such as a geological survey or geophysical survey.
- b. The deepening, side tracking or plugging back of an Exploratory Well.

- c. The drilling of an Exploratory Well including stratigraphic tests and coring programmes.
- d. The drilling of appraisal and development wells and the installation of Production facilities to develop a discovery made by a Sole Risk Exploratory Well, provided the purpose of such Facilities is not otherwise to increase or accelerate production of Petroleum from geological structures in the Contract Area other than the geological structure on which such Sole Risk Exploratory Well was drilled; and
- e. Any other activity or project agreed by the Parties to be undertaken as a Sole risk Operation.

29B. Conditions for Sole Risk Operations

29B.1 No Sole Risk Operation may be conducted if it would adversely affect Joint Operations or conflict with all or any part of any Current Program.

29B.2 No Sole Risk Operation shall be undertaken until the operations comprising the Sole Risk Operation shall first have been proposed in writing to the Operating Committee in complete form. The aforesaid proposal to be in complete form shall specify as Joint Operations appropriate details of the Operations such as location of proposed well, scope of geographical and geophysical programmes, proposed depth, itemized estimate of the costs thereof, economic analysis, expected date of commencement and the expected date of completion.

29B.3 A Sole Risk Operation for the deepening or sidetracking of an Exploratory Well in the course of Drilling may be proposed only if such well has not encountered a discovery and the parties have decided to abandon the well following their receipt of all drilling and test results.

30. Sole Risk Notice

30.1 Within 12 months after the operating committee disagrees with a proposal for Joint Operations or within 48 hours after a decision of the Operating Committee to abandon an Exploratory Well, any Party may give to the other party a Sole Risk Notice, in writing. The Non-proposing Party shall have one hundred and eighty days, after the receipt of the Sole Risk Notice, within which to notify the Party giving the Sole Risk Notice whether or not the Non-Proposing Party elects to participate in the costs of such Sole Risk Operation in which case it will give to the proposing party a Participation Notice, or if it does not intend to participate, a Non-participation Notice.

31. Sole Risk Operation as Joint Operations

If the non-proposing party elects to participate in the proposal that is the subject of a Sole Risk Notice within the specified period, such Sole Risk Operation shall be carried out by the Operator as Joint Operations and the sole risk notice deemed overtaken.

32. Sole Risk Operation

In the event the non-Proposing party does not elect, within the applicable period to participate in a proposed Sole risk Operation, the Proposing party shall be entitled to carry out the Sole Risk Operation at its sole risk, cost and expenditure.

33. Operator of Sole Risk Operation

33.1 Notwithstanding that the Operator may not be the Sole Risk party, the Sole Risk Operation shall be carried out promptly and diligently by the Operator for the sole account and benefit of the Sole Risk Party.

33.2 Any Sole Risk Operation shall be carried out at the sole risk, cost and expense of, and under the overall supervision and control, of the Sole Risk party.

33.3 The Operator shall keep and maintain separate books, records, and accounts (including bank accounts) with respect to the Sole Risk operations, including Sole Risk share of all Common Costs in connection therewith, which shall be subject to the right of examination and audit by the Sole Risk Party.

33.4 The Sole risk Party shall be obligated to advance the estimated expenditure for the Sole Risk Operation to the Operator within fifteen days after receipt of the Operator's request there for. The Operator shall not use, or be required to use, Joint Account funds for Sole Risk Operation.

34. Commencement of Sole Risk Operation

34.1 It is hereby understood that the Sole Risk party shall do all things necessary to enable the Operator on its behalf to commence the Sole Risk Operation within one hundred and eighty days after expiry of a Participation Notice

34.2 If the Sole Risk Operation specified in the Sole Risk Notice is not commenced within the period specified for reasons attributable to the Proposing party, then the right of the proposing Party to carry out the Sole Risk Operation shall lapse.

35. Information Concerning Sole Risk Operation

35.1 The Operator shall, in relation to the Sole Risk Operation, furnish to the parties all information and data which the Operator is obligated to give the Non-Operator under the terms of the Agreement.

36. Election to participate in Further Work

36.1 A Non-Participating party may at any time, elect to participate in a Sole Risk Operation by paying to the other Party, an amount equal to its Participating Interest share of the cumulative cost and expenditure of the Sole Risk Operation, incurred as of the date of such election plus 200% thereof ("Re-entry Penalty"). The whole or any part of the Re-entry penalty shall be paid in cash in the currency in which the Sole Risk costs have been incurred or in kind or both as may be mutually agreed by the Parties following an election and payment as aforesaid. Such operations shall thereafter be carried out as Joint Operations.

37. Use of Joint Property and Personnel of Operator for Sole Risk Operation

37.1 A Sole Risk party shall be entitled to use joint property and Personnel of the Operator for Sole Risk Operation upon terms and conditions agreed by the parties. Provided however, that it is understood that, at all times, the Joint Operation shall take precedence over the Sole Risk Operation in such use of Joint property and Personnel.

38. Indemnification of the Non-Participating Party

38.1 The Sole Risk Party shall indemnify and hold harmless the Non-participating party from all suits, claims, liens, liabilities, damages, costs, losses and expenses whatsoever directly or indirectly caused to Third Parties or incurred by the Non-Participating Party as a result of anything done or omitted to be done in the course of carrying out the Sole Risk Operation.

39. Title to the Sole Risk Operation, Production and Facilities

39.1 All property acquired through a Sole Risk Operation, including data and information, shall be wholly owned by the Sole risk party.

39.2 In case of a Sole Risk Operation, the relevant facilities as well as any Petroleum produced there from, shall be owned by the Sole Risk party until such time as Non-Sole Risk Party has elected to participate in further work under the Sole Risk Operation.

39.3 Notwithstanding the election of a Non-Sole Risk Party to Participate in a Sole Risk Operation involving production of Petroleum discovered as the result of a Sole Risk Exploratory Well, and the payment by the Non-Sole Risk party of the amount of money to meet the cost already incurred by the Sole Risk Party, the Non-Sole Risk party shall not be entitled to receive any payment in kind or cash or credit for any petroleum which was produced as a result of a discovery from such Exploratory Well prior to the date of such election and payment. Upon such election and payment, however the Non-Sole Risk Party shall be entitled to its Participating Interest Share of petroleum produced as a result of a discovery from such Exploratory Well following such election and payment.

40. Reports and Dealing with the Government

40A. Representation of Parties before Government

40A.1 The Operator shall represent the parties before the Government, or any state government, local government, or any subdivision thereof, with respect to all matters arising under or relating to the Joint Operations subject to the requirement that the concurrence of the Non-Operator be first had and obtained with respect to representation on any matters which may materially affect the Non-Operator.

40A.2 Since international oil corporations are always the operator while NNPC is the Non-operator, the implication of this provision is that IOCs will always speak to the Nigerian government for themselves and for NNPC on matters concerning the Joint Venture agreement.

40B. Reports and Applications

40B.1 The Operator for and on behalf of the Parties, shall prepare, file and otherwise handle with the appropriate Government or its agencies all reports, applications and returns (other than returns relating to taxes based on income or profits or to sales tax, but including returns which may be required with respect to physical equipment and personal property for tax and other purposes) which may be required by the Concessions and the Regulations; in particular, the Petroleum (Drilling and Production) Regulation 1969, as amended.

40C. Copies of Reports

40C.2 The Operator shall promptly furnish the Non-Operator with copies of reports filed with the Government. Nothing in this agreement shall prevent the Non-Operator from representing itself before any of the aforementioned governmental bodies on matters, which are appropriate and necessary. However, the Operator shall be advised of such representations promptly except for any confidential communication between NNPC and Governmental Bodies.

40D. Assistance of Non-Operator

40D.1 The Non-Operator shall give the Operator whatever assistance that may be required to obtain any necessary governmental approvals and permits necessary to give effect to the terms of this agreement.

40E. Training and Assignment of NNPC Staff

40E.1 The Operator shall provide facilities for the training of NNPC personnel in the Joint Operations in accordance with a training programme and conditions approved by the Parties. Such personnel may be trained in Nigeria and/or overseas as may be necessary.

40E.2 The Operator shall accept any reasonable proposal for the assignment to the Operator of the personnel of NNPC. Such assignment shall be for such specified duration, duties, terms and conditions agreed to by the Operator and NNPC

40F. Handling of Information Obtained from Operations

40F.1 With respect to the Contract Area, the Operator shall keep in a safe place in Nigeria all original records acquired or made in connection with the Joint Operations. All said records and all other information without limitation, derived from the Joint Operations shall be made available for inspection and copying of duly authorized representative of either Party. All the information, reports, maps, logs, records and

other data referred to in this agreement shall be proprietary to the parties and, as such, shall be held in strict confidence by them and not divulged in any way without the written consent of both Parties.

40F.2 The provision on non-disclosure shall not apply to disclosure by a Party to its Affiliates, and information or data required by Regulations to be furnished to the Government or any other government of the Federation or their respective agency or agencies.

40G. Confidentiality

40G.1 Each Party shall treat all data and information acquired through Joint Operations as confidential and shall take such precautions as are necessary to prevent disclosure thereof to others; *provided however*, that such data and information may be disclosed, subject to appropriate confidentiality agreements executed prior to such disclosure, to professional consultants and persons and The Contractors engaged by the Operator, to the extent required for carrying out Joint Operations.

40H. Non-Disclosure

40H.1 Nothing in this agreement shall be construed as permitting disclosure of information and data to any other person, other than an Affiliate without prior written consent of the Parties.

41. Disposal of Crude Oil

41.1 Rights of Parties

Subject to the provisions of this agreement each Party shall have the right to nominate, lift and separately dispose of, its Participating Interest share of available production of petroleum on accordance with the provisions and the procedures set forth in this agreement.

42 Passing of Title

42.1 Title shall pass as soon as Crude Oil passes the flange connecting the Operator's pipeline or other delivery facilities to the loading vessel's intake-pipe during delivery operations.

43 Assignment And Transfer

43A. Rights to Assign or Transfer

43A.1 Subject to this agreement, each Party shall have the right at any time to transfer, in whole or in part, its Participating Interest in the Assets, Joint Property and Working Capital of the Joint Venture including its rights, title, interest, benefits, duties and obligations under this Agreement, provided however that:

- a. No Party may assign or transfer its interests or any part thereof without the prior written consent and approval of the other Party, which consent and approval shall not be unreasonably withheld;
- b. Any assignee or transferee shall be of technical and financial standing sufficient to perform the duties, obligations and liabilities hereunder to the extent of the interests assigned.
- c. Any assignment or transfer shall be in writing and shall be subject to the terms and provisions of this Agreement and the assignee or transferee shall in writing to the other parties assume and agree to perform or pay, the assignor's or transferor's duties, obligations and liabilities to the extent of the interests assigned or transferred, and such assignee or transferee shall automatically become a Party hereto;
- d. Subject to other provisions of this agreement, the terms, covenants and conditions of this Agreement shall be binding upon, and shall inure to the benefit of the Parties hereto and their respective successors and assigns; and the said terms, covenants and conditions in so far as they touch and concern the Concessions, shall be covenants running with the land;
- e. The assigning or transferring Party shall have fully performed all of its duties and obligations under this Agreement up to the effective date of the assignment or transfer;
- f. No assignment or transfer may be made that would result in any non-uniformity of Participating Interests throughout the entire Contract Area.

43B. Assignment of Operatorship to Operator's Affiliate

43B.1 The Operator may assign its general powers and responsibilities of supervision and management as Operator pursuant to this Agreement to an Affiliate of the Operator, subject to the prior written consent of the Non-Operator first had and obtained which consent shall not be unreasonably withheld. In such a case, the Operator shall remain liable for all its obligations as Operator.

43C. Parties' Preferential Right and Option

43C.1 Subject to this agreement, if any Party receives an offer from a third party which it desires to accept, for the assignment or transfer of its Participating Interest hereunder, the *Transferring Party* shall give the other Party prior right and option in writing to purchase such Participating Interest as provided in this agreement.

43C.2 The Transferring Party shall first give notice to the other Party specifying therein the name and address of the aforesaid third Party and the terms and conditions (including monetary and other consideration) of the proposed assignment and transfer.

43C.3 Upon receipt of the notice, the other Party may within thirty days thereafter, request in writing the assignment and transfer of such Participating Interests to it, in which event the assignment or transfer shall be made to it on the same or equivalent terms.

43C.4 Where the other Party does not request the assignment or transfer of such Participating Interests as requested above, the Transferring Party may, within a period of one year thereafter assign or transfer it to the said third party provided that an instrument evidencing such transfer must be executed by the parties thereto and submitted to the non-Transferring Party.

43D. Effective Date of Transfer

43D.1 No transfer shall be effective or binding upon the Parties until the first day of the calendar month next following the date upon which the Party transferring to an Affiliate or a third Party furnishes the Parties with an executed or photostat copy of an instrument evidencing such transfer, together with any necessary consent of the requisite Government authorities; and

43D.2 A written instrument between the Parties and the assignee in a form and content satisfactory to the Parties duly executed by the assignee accepting and assuming all of the obligations under this Agreement in so far as the Participating Interests transferred are concerned.

43E. Retention of Liability by Transferring Party

43E.1 A Party transferring all or part of its Participating Interest to an Affiliate shall, unless the other Party otherwise agrees, remain liable to the other Party for all obligations attaching to the Participating Interest assigned and such obligations shall in addition become the obligations of the assignee. This requirement may be waived by the Operating Committee if such Affiliate is of same or better financial standing and competence as the original participating Party and the assignee has given an unconditional undertaking to assume all obligations of the Party under the Agreement.

43F. Pre-Assignment Obligations

43F.1 A Party assigning all or part of its Participating Interests to any third party (not being an Affiliate of the assigning Party) shall remain liable to the other for all obligations, attaching to the Participating Interest incurred prior to the effective date of such assignment and such obligations shall in addition become the obligations of the assignee.

43G. Obtaining of Government Consents

43G.1 The Parties shall promptly join in such reasonable actions as may be necessary or desirable to obtain any government consent in connection with, and shall execute and deliver any and all documents reasonably necessary to effect a transfer of participating interest.

43H. Costs and Expenses

43H.1 All costs and expenses pertaining to assignment shall be the responsibility of the Party transferring the Participating Interest.

43I. Encumbrances

43I.1 A Party shall in no way whatsoever directly or indirectly encumber or permit or cause to be encumbered its Participating Interest or its interest in the Joint Property without the express written consent of the other Party first had and obtained, which consent shall not be unreasonably withheld.

43J. Relation of the Parties

43J.1 The rights, duties, obligations and liabilities of the parties shall be several and not joint or collective; and nothing contained in this agreement shall ever be construed as creating a partnership of any kind or as imposing upon any or both parties any partnership duty, obligation liability.

44. Litigation

44.1 Litigation and settlement of claims in connection with Joint Operations shall be conducted for and on behalf of the Parties by the Operator pursuant to the direction of the Operating Committee; provided however, that the Operator shall have authority to settle claims and litigation not exceeding N400,000.00 (Four Hundred Thousand Naira) or the foreign currency equivalent without the approval of the Operating Committee. The Operator, however, shall promptly report any such aforesaid settlement to the Operating Committee. Each Party shall notify the other party of any process served upon it or of any process it intends to serve in any action respecting the concessions, the Contract Area or any aspect of the Joint Operations. Nothing contained in this sub clause shall preclude a Party from also acting on its own behalf (and at its own expense) if, in its opinion, it considers such action advisable or necessary to protect its interest. However, a Party acting on its own behalf shall not pursue a course of action contrary to the course of action then being taken for the Joint Account with respect to such litigation.

The above provisions are by and large the substantive provisions of JOA. Outside them are ancillary provisions meant to help their performance. These ancillary provisions include contract tender procedure, materials and equipment procurement procedure and project monitoring. There is also a schedule dealing with uniform nomination, ship scheduling and lifting procedure. Finally, there is an arbitration clause that provides for arbitration in the event of a dispute arising between the parties on any issue provided for by the agreement.

Contract Tender Procedure

Because parties to a Joint Venture cannot conceivably perform all the duties the contract entails, they have to subcontract some these duties to third parties with the requisite competence of performing them. The JOA lays out the procedure to be followed in awarding such subcontracts to the third parties. It will provide that:

1. The Operator shall maintain a list of approved companies for the purposes of contracts for the Joint Operations, (the "Approved Contractors' List"). The Non-Operator shall have the right to propose companies to be included in the list. The Operator shall be responsible for prequalifying any Contractor to be included in the Approved Contractors' List.
2. The Contractors included in the Approved Contractors' List shall be both local and/or overseas companies and entities. They shall also be registered with the Department of Petroleum Resources of the Ministry of Petroleum Resources.
3. When a contract is to be awarded, the Operator shall present a list of proposed bidders to the Non-operator for concurrence not less than ten (10) working days before the issuance of invitations to bid to prospective contractors. Non-operator may propose additional names to be included in the list of proposed bidders or the deletion of any one thereof.
4. If the Non-operator has not responded within ten (10) working days following after the presentation of the list of proposed bidders as aforesaid, the operator's list shall be deemed to have been approved.
5. The Operator shall establish a Bid Committee which shall be responsible for prequalifying bidders, sending out bid invitations, receiving and evaluating bids and determining successful bidders to whom contracts shall be awarded.
6. Analyses and recommendations of bids received and opened by the Bid Committee shall be sent by the Operator to the Non-Operator for concurrence before a contract is executed with the selected contractor. The Non-Operator shall respond within ten (10) working days. Approval shall be deemed to have been given if Non-Operator has not responded within the said period.
7. In all cases in which an offshore company or its Nigerian Affiliate is invited to bid, the Operator shall make full disclosure to the Non-Operator or its relationship, if any, with the company or companies.
8. The foregoing procedures may be waived in emergency cases or in respect of work requiring specialized skills. In such cases the Operator may negotiate directly with contractors.
9. The Non-Operator shall be promptly informed of the outcome of such negotiations and the terms of any resultant contract.

General Conditions of Contracts

1. Payment Terms

A minimum of 10% of contract price shall be held as a retention payment until after the end of a guarantee period agreed with the Contractor which shall vary between six months and twelve months, depending on the project, with the exception of drilling and seismic data acquisition, well surveys and other such services. A contractor, may

be given the option to provide other guarantee equivalent to the 10% retention such as Letter of Credit or Performance Bond.

2. Language of Contract

The language of the contract shall be English.

3. Laws, Regulations and Permits

The governing law of all agreements shall be Nigerian Law.

The Regulations shall apply to contractors performing in Nigeria and, as far as practicable, they shall use indigenous human and material resources.

All contracts shall include a provision whereby the Contractor shall hold the Operator harmless and indemnify the Operator from and against all liabilities, losses, damages and claims resulting from claims and suits by third parties.

4. Termination

Each contract shall also provide for early termination upon notice and the Operator shall use all reasonable endeavours to obtain a termination provision with minimal penalty.

5. Local Subsidiary

Contracts shall provide, in the case of a foreign The Contractor, that the local part of the work, where practicable, shall be performed by the Contractor's local subsidiary.

Materials & Equipment Procurement Procedure

The Operator shall:

1. In ordering the equipment/materials, obtain from Vendors/manufacturers such rebates/discounts and such warranties/guarantees that such Vendors/manufacturers normally offer, and all rebates, discounts, guarantees and all other grants and responsibilities shall be for the benefit of the Joint Operations;
2. By means of established policies and procedures ensure that its procurement efforts provide the best total value, with proper consideration of quality, service, price, delivery and operating costs to the benefit of the Joint Operations;
3. Maintain appropriate records, which shall be kept up to date, clearly documenting procurement activities.
4. Provide a quarterly listing of excess materials in its stock list to the Non-Operator and circulate same to all other Joint Venture Operators; and
5. Initiate and maintain policies and practices which create a competitive environment/climate amongst local and/or overseas suppliers.
6. Ensure competitive quotation processes are employed for all local procurements where the estimated value exceeds the equivalent of \$350,000.00.

7. To the extent practicable, encourage indigenous participation in the award of sub-contracts.

Project Monitoring

1. For major contracts exceeding \$5,000,000.00, or equivalent, the operator shall furnish to the Non-Operator a detailed quarterly report which shall include:

- a) Approved budget total for each project;
- b) Expenditure on each project;
- c) Variances and explanation;
- d) Number and value of construction change orders;
- e) Bar chart of schedule showing work in progress and work already completed and schedule of mile-stones, and significant events; and
- f) Summary of progress during the reporting period, summary of existing problems, if any, and proposed remedial action; and anticipated problems; and percentage of completion.

2. In the case of an increase in excess of 10% of the project, Operator shall promptly notify the Non-Operator of same.

3. Not later than three (3) months following the physical completion of any major project over \$1,000,000.00, or equivalent, the Operator shall prepare and deliver to the Non-Operator a project completion report which shall include the following:

- i. Cost performance of the project in accordance with the work breakdown at the commencement of the project;
- ii. Significant variations in any item or sub-items; and
- iii. Summary of problems and unexpected events encountered during the project.

Uniform Nomination, Ship Scheduling and Lifting Procedure

A Joint Venture Agreement between NNPC and IOC is usually for exploration and production of oil. A schedule to a JOA deals with how the produced oil is shared between the Joint Venture partners and how the parties lift their share of the produced oil.

Definition of Terms

- a. **Technical Allowable Production** means *the quantity of Petroleum Resources as being the quantity that may be produced from the Contract Area on a well-by-well basis for a particular period.*
- b. **Commercial Production Quota** means *the quantity of Petroleum from time to time fixed or advised by National Petroleum Investments Management Services (NAPIMS on behalf of the Honourable Minister of Petroleum Resources as the permissible quantity that may be produced from the Contract Area on a well-by-well basis for a particular month/quarter.*

- c. **Actual Production** means *the quantity of Petroleum which is produced from the Contract Area on a monthly/quarterly basis.*
- d. **Available Monthly Scheduling Quantity** means *the Operator's best estimate of pro-rata portion of each Party's Participating Interest share of the commercial Production Quota for the calendar month.*
- e. **Combine Lifting Schedule** means *the lifting programmes of all the Parties for a given calendar month as prepared by the Operator and agreed to by the Parties.*
- f. **Primary Nomination** means *a written statement issued by each Party to the Operator at least twenty-five (25) days prior to the commencement of each calendar month of its production nominations based on its Participating Interest Share of the Commercial Production Quota, which it desires to take during the particular calendar month.*

Notice of Availability

1. On or before September 30 of every year, the Operator shall advise the Parties of the *Technical Allowable* it thinks it can produce during each month of the first six (6) months of the ensuing year.
2. Where for operational reasons the Operator cannot exactly produce at the anticipated *Commercial Production Quota*, the Operator shall notify the Parties promptly of any required changes.
3. Not later than twenty-five (25) days before the beginning of each month, each Party shall notify the operator and the other Party of its PRIMARY NOMINATION of Crude Oil which it intends to lift during the ensuing month which shall not exceed the Party's monthly Participating Interest share of the *Commercial Production Quota*.
4. If during any calendar month a party has nominated a total quantity of Crude Oil which was less than its Participating Interest share of the *Commercial Production Quota*
5. The Operator shall keep complete records of all liftings and advise the Parties accordingly.

Operator's Reports

1. The Operator shall, not more than fifteen (15) days after the end of each calendar month, and quarter, prepare and furnish to the Parties, a written statement showing in respect of the month and quarter respectively:
 - a. Each Party's Participating Interest share of *Commercial Production Quota*;
 - b. Lifting against each Parties *Primary Nomination*
 - c. Lifting against *Actual Production* and Total Nomination;

- d. Quantity of Crude Oil in Joint Property Tankage at the end of the said Calendar month or quarter; and
 - e. Any production losses attributable to the Joint Account.
2. In the event the non-operator disagrees with any of the operator's reports, the areas of disagreement shall be mutually resolved by the operator and the non-operator. The operator shall thereafter prepare a revised report to reflect the changes agreed.

Notification of Lifting Schedules

1. At least twenty five (25) days prior to the beginning of a calendar month, each party shall notify the operator of its proposed lifting schedule for the next calendar month specifying the following:
- (a) A loading date range of three days.
 - (b) The desired parcel size.
 - (c) The tanker's name or To Be Named (TBN) for each tanker lifting.

Tanker Substitution

Any party may substitute a tanker to lift its nomination volume of crude oil, provided such substituted tanker has the same arrival date range as the originally scheduled tanker.

Overlapping Date Ranges

In the event the combined lifting schedule contains overlapping arrival date ranges, the tanker which gives its Notice Of Readiness (NOR) and has provided all documentation and obtained clearances first within such accepted arrival date ranges shall be loaded.

Confirmation of Lifting Schedules

At least fifteen (15) days prior to the beginning of a calendar month, the operator shall either confirm the feasibility of the proposed monthly lifting schedules or, alternatively, advise necessary modifications to such schedules.

Operational Delays

The parties recognize that occasionally environmental and technical problems in the contract area may cause delays and/or disruptions to oil lifting. The operator shall promptly notify the parties of such delays and/or disruptions, and the projected termination of each of such delays and/or disruptions. Each party shall thereupon be advised of the revised lifting.

Estimated Delayed Arrival of a Tanker

1. Whenever it becomes apparent that a tanker will not be available as scheduled or will be delayed, the party utilizing such tanker shall notify the other party of the circumstances and expected duration of the delay. Upon assessing the impact that the delay will have upon the combined lifting schedule and production during the current

and/or next month, the operator shall make appropriate revision(s) to the lifting schedule to avoid disruption in production. In the event that any party fails to lift its nominated share of production in any quarter due to circumstances beyond the party's control that party shall have the right during the first fifteen days of the following quarter to lift the unlifted quantities (hereinafter called "Operational Carry Forward") provided that such lifting can be accommodated by the operator without detriment to the rights of the other party.

Tanker Standards

All tankers nominated for lifting by any party shall conform to the regulations and standards concerning size, equipment, safety, maintenance and the like adopted by the operator for the port in question and by the appropriate government authority.

Production Decreases/Increases Subsequent To Nomination

1. Production decreases occurring after lifting nominations have been scheduled and not resulting from the fault of either party shall be shared by parties in proportion to their respective participating interest shares.
2. Production increases occurring after lifting nominations have been confirmed by the operator shall be available to the parties in proportion to their respective participating interest shares.
3. Any *Commercial Production Quota*, which is not nominated by the parties and is not produced from the contract area during the relevant calendar month shall remain in the reservoir for the benefit of all parties.
4. Any production decrease caused by or resulting directly from the actions of one party shall not affect the availability or entitlement of the other party.

Delivery Terms and Conditions

Tanker Notification

Parties shall report, or cause the tankers nominated for lifting to report, by radio/telex to the operator of each tanker's scheduled arrival date and hour of a tanker:

Notice of Readiness

Upon arrival at the designed safe anchorage at the port or upon the time of boarding of the mooring master,³ whichever is earlier, the master of the tanker shall give the operator a NOTICE OF READINESS (NOR) by radio or by letter, as appropriate, confirming that the tanker is ready to load cargo, berth or not berth. Laytime,⁴ as herein provided, shall commence upon the expiration of six (6) running-hours after

³ The mooring master ensures the cooperation of the ship's master, officers and crew throughout berthing and loading operations

⁴ In commercial shipping, laytime is the amount of time allowed (in hours or days) in voyage charter for the loading and unloading of cargo. If the laytime is exceeded, demurrage is incurred.

receipt by the loading terminal of such notice, or upon the tanker's completion of mooring⁵ at the sea loading terminal, whichever first occurs. However, where delay is caused to the tanker getting into berth after giving NOR for any reason over which neither operator nor the loading terminal has control, such delay shall not count as used laytime. In addition time used by tanker while proceeding to berth or awaiting entry and free pratique⁶ by customs after the expiration of six (6) running hours free time, shall not count as used laytime.

Early Tanker Arrival

If a tanker arrives and tenders NOR to load prior to its arrival date range, the operator shall endeavour to load the tanker on arrival or as soon thereafter as possible. Laytime shall only commence when loading commences. If, however, the operator is unable to accept tanker for loading prior to the agreed arrival date range, Laytime shall commence at 0600 hours, local time, on the first day of the arrival date range or when loading commences, whichever occurs first.

Late Tanker Arrival

If a tanker arrives and tenders NOR to load after its arrival date range and other tankers (having arrived during their accepted date-range), are either loading or waiting to load, the loading of the tanker shall be governed by the earliest availability of crude and loading slot, and laytime shall commence only when loading has commenced.

Laytime

The Operator shall be allowed laytime in running hours equal to one half of the voyage laytime permitted under world scale, or such other freight scale that is issued in replacement thereof, for loading a full cargo and pro-rata thereof for a part cargo, within a minimum of eighteen (18) hours, Sundays and holidays included. Any delay due to the fault of the tanker or its facilities to load cargo within the time allowed shall not count as used laytime. If rules of the owner of the vessel or regulations of government or appropriate Government Port Authority prohibit loading of the cargo at anytime, the time so lost shall not count as used laytime. Time consumed loading or discharging ballast laytime shall continue until hoses have been disconnected, delays in loading or completing thereof caused by reasons beyond the control of operator or Loading Terminal shall count as used Laytime.

Demurrage

If the operator is unable to load within the time allowed, the operator shall apply demurrage per running hour (pro-rata for a part thereof) for laytime exceeding the

⁵ Mooring is a place a ship or vessel is secured. It includes quays, wharfs, jetties etc.

⁶ Pratique is the license given to a ship to enter a port on assurance from the captain to convince the authorities that she is free from contagious disease. The clearance given is commonly referred to as free pratique.

allowed laytime as specified herein. The rate of demurrage will be calculated by multiplying the time by the Average Freight Rate Assessment (AFRA) as determined by the London Tanker Broker's Panel. In the event such determination is no longer available, a freight rate assessment shall be mutually agreed by the parties; which rate shall be appropriate in relation to the size of the tanker and in force on the date the tanker tenders NOR to load. If however, demurrage shall be incurred by reasons of fire, storm, explosion, or by strike, picketing, lockout, stoppage or restraint or labour difficulties, or disturbances or by breakdown of machinery or equipment in or about the loading terminals, the rate of demurrage as calculated in accordance with the above shall be governed by force majeure and shall not attract any demurrage.

Change of Berth

The operator shall have the right to shift any vessel from one berth to another. Charges of running lines on arrival at and leaving the berth, wharfage and dockage charges at that berth, and any other extra port charges or port expenses incurred by reason of such shifting at the operator's request shall count as used laytime. If however, it is necessary to shift the vessel from the berth because of the vessel or its crew, the resulting expenses shall be borne by the party whose crude oil is being lifted. The time consumed in such circumstances, shall not count as used laytime.

Tanker Departure

Tanker shall vacate the berth as soon as loading is complete. The party that scheduled such taker shall indemnify the operator for any direct loss or damage incurred as a result of tanker's failure to vacate the berth promptly including such loss or damage as may be incurred due to resulting delay in the docking of the tanker awaiting the next turn to load at such berth.

Loading Hoses

Hoses for loading shall be furnished by the operator and shall be connected and disconnected by the tanker's crew under the supervision of a suitable qualified Ship's Officer acting on the advise of the Operator's Mooring Master.

Partial Cargo

Should the operator supply less than full cargo, the tanker shall not be required to proceed to sea until all of her tanks are filled with a combination of cargo and ballast as will place her in a seaworthy condition.

Crude Oil Quality and Measurement

Certification

The quantity, quality and origin of each shipment of crude oil shall be determined by the operator at the loading terminal and set forth in standard certificates of quantity, quality and origin. Each party shall have the right to designate a representative at its own expense, who shall have the right to witness the determination of quantity, quality and origin. All reasonable facilities shall be supplied, to such party's

representatives at the port to enable such representatives to witness the measurements taken at the loading terminal.

Acceptance of Certificate

If the party in question does not appoint a representative, or if such representative appointed as aforesaid agrees with the certificate of quantity, quality and origin of a shipment of crude oil (in which event he shall so indicate by signing the certificate of quantity, quality and origin), such determinations shall be final and binding on the parties and the operator.

Rejection Certificate

If the determinations of quantity, quality and origin by the operator have not been approved by such a representative and a dispute arises concerning the quantity, quality and origin of crude oil, recourse shall be had to an independent expert to resolve the dispute on the basis of his special knowledge of the subject matter in this regard and shall be appointed by mutual agreement between the disputing party and the operator; provided, however, that the documentation shall nevertheless be prepared in accordance with the operator's determinations. Such expert shall file his conclusions within thirty (30) days after his date of appointment. Any conclusions of such expert shall be binding upon the operator and the parties. The cost incurred relative to the services of such expert will be shared equally by the operator and the disputing party. Pending the determination of the dispute, the tanker may sail, unless the parties agree otherwise.

Quantity Determination

The quantity of crude oil lifted shall be determined at the time of loading on the basis of gauging the terminal tanks before and after the lifting of such crude oil, or otherwise by meter readings installed on the loading line. If approved by appropriate Government Authority.

Quality Determination

The determination of API Gravity and BS&W content shall be made of each shipment of crude oil. BS&W content and API Gravity shall be determined according to standard international practices.

Samples

A sample of each shipment of crude oil shall be taken. The sample shall be sealed and retained by the operator for a maximum of ninety (90) days. The lifting party or its representative shall have the right to receive one (1) gallon sealed sample of the crude oil loaded which shall be placed on board the tanker, if so requested.

Non-Waiver of Enforcement of Agreement

The failure of any Party to this Agreement, in any one or more instances, to insist upon performance of any provisions of this Agreement, or to exercise any of its rights

and privileges hereunder, shall not be construed as a waiver of future enforcement of that provision, right or privilege.

Change of Regulations

In the event the law changes after the execution of this agreement in a manner that substantially reduces or impairs the economic or other benefits afforded to the parties by the Agreement, the Parties agree to negotiate such amendments to this Agreement as are necessary to restore such benefits.

Arbitration Procedure

In the event of any dispute or difference arising between the parties concerning the interpretation or performance of this agreement or anything herein contained or in connection therewith or the rights and liabilities of other Party, if the Parties should fail to settle such difference or dispute by agreement, then either Party may serve on the other party a demand for arbitration. Within thirty days of such demand being served, each Party shall appoint an arbitrator and the arbitrators thus appointed shall, within a further fifteen days, appoint a third arbitrator. If the arbitrators do not agree on the appointment of such third arbitrator, or if either Party fails to appoint the arbitrator to be appointed by it, such arbitrator shall be appointed by the President or Vice President of the International Court of Justice on the application of either Party (notice of the intention to so apply having been duly given in writing by the applicant Party to the other Party); and when appointed, the arbitrator appointed by the arbitrators or the President or Vice President of the International Court of Justice, as the case may be, shall convene meetings and act as Chairman thereat. If an arbitrator fails or is unable to act, his successor will be appointed in the same manner as the arbitrator whom he succeeds. The arbitration rules and procedures and the award of the arbitrators shall be determined by a majority of the arbitrators, or in the absence of the agreement of any two arbitrators, by the Chairman alone. The arbitration award shall be binding upon the Parties in such proportion and manner as may be provided in the award and the expenses of such arbitration shall be borne by the Parties in like manner.

Arbitration Legislation

Nigeria Arbitration and Conciliation law shall apply.

Venue

The venue of the Arbitration shall be in a town in Nigeria agreed on by the parties.

Governing Law

This Agreement shall be governed by and construed in accordance with the Laws of the Federal Republic of Nigeria.

The Cash Call Debacle

A key provision of a JOA as seen in the prototype JOA provided in this text is cash calls. Periodically the operator of the Joint Venture Agreement calls on parties to the

agreement to pay the equity percentage of their shareholding in the Joint Venture. Since NNPC always hold 60% equity, when a cash call is being made, the corporation would be required to pay 60% of whatever sum of money is needed to execute a particular project.

Repeatedly the Nigerian government through NNPC has found it difficult to meet its cash calls obligations under Joint Venture Agreements because the government ostensibly needs the money to address other national needs. The difficulty of government meeting cash calls has led to the search for alternative funding sources for JVs. This search has produced the Modified Carry Agreement (MCA) under which IOCs pay either part or the whole NNPC's cash call and claim later NNPC share they paid after sale of petroleum produced from the affected venture. Alternative funding for the oil industry can be from project finance backed by an international bank or Modified Carry Agreement.

It is in part the inability of government through NNPC to meet its cash calls obligations that led to the adoption of Production Sharing Contract particularly in deep offshore oil exploration and production operations which are more expensive and therefore will entail more cash calls under Joint Venture Agreements.

In summary, a Joint Venture is modelled after partnership agreements. It operates as a form of partnership between the Joint venture partners which spells out the participatory interest of each of the partners and also designates one of the partners as the operator of the Joint Venture. The JOA governs the relationship between the parties including budget approval and supervision, crude oil lifting and sale in proportion to equity, and funding by the partners. The so-called participating agreement is nothing more than a Joint Venture Agreement on which a JOA is founded.

Participating Agreements

Relative to participating agreements, paragraph 34 of Schedule 1 to the Petroleum Act 1969 provides that:

If he considers it to be in the public interest, the Minister may impose on a license or lease to which this Schedule applies special terms and conditions not inconsistent with this Act including (without prejudice to the generality of the foregoing) terms and conditions as to (a) participation by the Federal Government in the venture to which the license or lease relates, on terms to be negotiated, between the Minister and the applicant for the license or lease..."

The above provision of the 1st schedule to the 1969 Petroleum Act surely drew inspiration from the 1st Resolution of OPEC on its establishment. The OPEC Resolution provides that:

Where provision for government participation in the ownership of the concession-holding company under any of the present petroleum contracts has not been made, the government may acquire a reasonable participation on the grounds of the principle of changing circumstance. If such provisions have actually been made but avoided by the operators concerned, the rate provided for shall serve as minimum basis for the participation to be acquired.

The objectives of government acquiring participating interest in OICs concessions include:

- (i) increase in government's revenue from the petroleum industry;
- (ii) acquisition of the necessary technological and managerial skills for petroleum development; and
- (iii) de facto control of the oil industry.

On the basis of the provision the 1st schedule to the 1969 Petroleum Act, the Nigerian government through NNPC has been entering into participating agreements in the form of Joint Ventures with IOCs. Given the general character of the right vested in the Minister by the provision of the 1st schedule to the 1969 Petroleum Act and the OPEC Resolution, the promulgation of the 2003 Back-in-Rights with its unpleasant backlash by the Federal Government was unnecessary. Relying on the above two provisions, the federal government will achieve the same result sought to be achieved by the Back-in-Rights Regulations, and without the drawbacks of the latter.⁷

Under paragraph 34 of schedule 1 of the 1969 Act, a Minister of Petroleum Resources, if he considers it to be in the public interest, may impose conditions on an OPL or OML. One of these conditions may stipulate that the Federal Government shall participate in the oil exploitation and production venture to which the OPL or OML relate. But the participation shall be on terms to be negotiated between the Minister and the oil company concerned.

Nigeria has taken advantage of the above provisions, and has progressively entered into oil partnership or joint ventures through the agency of NNPC with international oil corporations like Shell Petroleum Developing Company Nig Ltd, Agip, Elf Petroleum Nigeria Ltd. The process whereby a host country like Nigeria, engages in joint oil ventures or operation with IOCs and their subsidiaries is commonly referred to as Equity Participation. It simply means that a State, either directly, but mainly indirectly through the State oil company, acquires an equity or ownership interest in an OPL or OML. By so doing it becomes a partner in the venture and is liable to contribute financially to the operation of the venture, as well as reap part of the profits. A notable example of a joint venture operation in Nigeria

⁷See *NNPC v. Famfa Oil Ltd* (2009) 12 NWLR (1156) p. 462

today is the NNPC/Shell Joint Ventures, in which NNPC 60%, SPDC 30%, NAOC 5% and ELF 5%, are all partners.

As earlier maintained, the above process is achieved through the enabling provisions of the 1969 Act. The Act provides for Nigeria, the platform on which to acquire oil rights and interest in OPLs or OMLs granted to IOCs which are expected to provide the technology, as well as capital and skilled manpower. In a Joint Venture Agreement, the operational terms of the agreement are set out in a JOA.

In addition to a JOA, a Memorandum of Understanding governs the manner revenues from the Joint Venture are allocated between the partners, including payment of taxes and royalties. The income derived from the operation is also shared according to the equity interests of the parties in the venture with each party bearing the cost of its tax and royalty obligations in the same proportion. Allocations are also made from the revenue to take care of operating and technical costs. JOAs are constrained by allegations of gold plating⁸ of operating cost by the operator. This leads to mutual suspicion that is not healthy for the partnership. A way out of this allegation and suspicion is closer monitoring of the operator by the Non-operator.

A relevant question to ask at this juncture is whether the objectives of equity participation, as set out in the 1969 Petroleum Act have been achieved through Nigeria's equity participation in joint ventures with IOCs so far. On the issue of revenue generation, it cannot be doubted that Nigeria has gained immensely in the area of revenue from equity participation in the oil industry. As the price of oil skyrocketed in the world oil market since Independence, owing to various causes like the Arab-Israeli, Iran-Iraq war of the 1980s, Gulf War of the 1990s and 2003/2004 natural disasters of hurricanes, tornados, tsunamis, etc. However, while the nation has done well in revenue generation, it has fared badly in acquisition of technological and managerial skills on petroleum development by Nigerians, which would ultimately guarantee de facto control of the oil industry by the country. De facto control means factual control. While de jure control provided for by the Petroleum Act in the form of the right of the Nigerian state to acquire rights to explore and produce oil in Nigeria can be obtained by legislative fiat, de facto control can only be achieved through acquisition of technological competence and managerial skills by Nigerians. On the basis of the facts on ground, it does not appear that the Nigerian Government has achieved de facto control of the nation's oil and gas industry. De facto control of the oil and gas industry involves decision-making in such vital areas as budget, operational and managerial matters, expansion and development programmes, appointment of management, for example Chief Executive and Directors, pricing, marketing and reorganization of oil enterprises. It is true that with the advent of equity participation, Nigerian Government acquired majority equity shares in most oil

⁸ Generally gold plating is the thin coating of gold on another metal usually to enhance the value of the metal. In the sense used here, gold plating is the padding of operating costs by operators in joint venture agreements to cheat the non-operator.

companies, which are really subsidiaries of their parent companies in Europe and America. This guaranteed the host country majority representation on the boards of these oil subsidiary companies. Having majority representation on the board of IOCs subsidiary companies alone however, cannot further Nigeria's interest or control, because the parents of the subsidiary IOCs exercise effective control over the management of their subsidiaries operating in Nigeria. By so doing, they retain de facto control of the oil sector which they so ruthlessly exercised prior to the changes brought about by the 1969 legislation. Subsidiaries of IOCs continue to refer to their parent companies overseas on major decisions involving managerial, financial and technical matters affecting their operations in Nigeria. This despite the fact that the subsidiaries are independent, and are also dominated by Nigerians. What is largely responsible for this state of affairs is that Nigeria has not been able to attain the level of technological and managerial advancement which would deliver the control of day-to-day running of the oil and gas industry. This reality has to some extent prodded the Nigerian Government to tread carefully so as not to risk disinvestments in the industry. Indeed, the Government position is not to embark on reckless insistence of total control of the oil industry, when the capacity to do so, namely management and technology are not there, or if they are there, are not fully developed. The principle of permanent sovereignty over natural resources may have initiated and strengthened de jure control of the oil sector, but indications are that the Nigerian Government will not carry it beyond the level it would hurt the country economically.

In addition to acquisition of participating interest in the oil and gas industry, another means of achieving de facto control of the industry by Nigeria is increased local content and indigenous participation. There can be no doubt that if this policy is carried out successfully, it will give the nation de facto control of the industry. Therefore the 2010 Local Content Act is a step in the right direction. Again, lack of capital, inadequate manpower and absence of technology will also confront the nation on the path of gaining de facto control of the oil and gas industry through a local content drive.

Production Sharing Contracts

The Rising Profile of Production Sharing Contracts in Nigeria

As at 2013, there were over 60 operational Production Sharing Contracts (PSCs) and over a 100 that were signed but not yet operational. PSCs are entered into not only between NNPC and IOCs, but between indigenous oil companies with IOCs. After entering into PSCs with NNPC, IOCs enter into MOUs with government, which gives them certain incentives.

Fundamental Provision in a PSC

Term contract

This has to do with the period of time the contract should subsist. Usually the term is thirty years. If the contract term is thirty years, it is likely under the Petroleum Industry Bill to overshoot the licence or lease particularly if the contract was not entered into at the beginning of the life of the licence or lease. This would entail the renewal of the licence or lease.

Relinquishment clause

The relinquishment clause obligates the IOC to release a portion of the contract area after a particular period of time. Areas required to be relinquished are areas no oil has been found or no oil production is going on. This provision in a PSC merely repeats what is already provided for under statutory law.

National interest provision

This provision aims at enhancing and protecting national socio-economic wellbeing of the host state. It always requires local content, technology transfer or capacity building. Pursuant to this provision, a PSC agreement may provide that an international oil corporation shall each year submit a detailed programme for recruitment and training of Nigerians for the following year. It may also stipulate that qualified Nigerians shall be employed in all non-specialised positions, and also in specialised positions such as those in exploration, drilling, engineering, production and finance. The IOC would only be entitled to employ non-Nigerians into these positions only where there are no qualified Nigerians. Such a provision may also require NNPC to attach competent Nigerian professionals to work with the IOC from time to time and such NNPC attached official shall not be treated differently from the IOC's staff with regard to salary and other benefits. The provision would further

provide that cost and expenses incurred in recruitment and training of Nigerians shall be included in the IOC's operating cost.

In addition to requiring IOCs to employ Nigerians, there should also be a clause that entitles IOCs to disengage Nigerians employed by them only with the approval of the Minister of Petroleum Resources or for gross misconduct. Lack of a provision like this makes Nigerians working with IOCs to do all the biddings of their employers out of fear of being sacked by their employers.

Rights and obligations of the parties

A typical PSC agreement will subject an IOC (usually the operator in such contracts) to a number of duties. Under a PSC agreement, the operator has a duty to:

- (a) Provide necessary funds for payment of operating cost such as funds to purchase materials, equipment and for technical requirements such as personnel;
- (b) Provide Funds for performance of work programmes;
- (c) Prepare work programmes and budgets and carry out approved work programme in a good and workmanlike manner;
- (d) Submit to NNPC for permanent custody copies of all geological, geophysical, drilling, well production, operating and other data and report as it may compile during the term of the contract;
- (e) Give preference to goods and services available in Nigeria, provided such goods and services meet the specifications needed to do the work; and
- (f) Indemnify and hold NNPC harmless from losses including legal fees and expenses of whatever kind and nature resulting from the Contractor's wilful misconduct in carrying out petroleum operations.

As an IOC operator has duties, it has rights. It has the right to:

- (a) lift and export produced crude oil; and
- (b) finance petroleum operations from external sources under terms approved by NNPC.

As an IOC is subject to duties and entitle to rights under a PSC agreement so is NNPC. A PSC agreement will usually require NNPC to:

- (a) pay to the Nigerian government in a timely manner all bonuses, royalties, concessions, rentals and PPT accruing out of petroleum operations. Though this duty might be couched this way in a PSC agreement, in practice bonuses, royalties and concession rentals are collected by DPR straight from the operator while the Federal Inland Revenue Service collects PPT straight from the operator.
- (b) Assign its professional staff to work closely with the operator's professional staff.

As a PSC subjects NNPC to duties, it also entitles the corporation to:

- (a) the right of to have title to original data resulting from petroleum operations.
- (b) Title to equipment. It is usually a provision in a PSC that the Contractor shall finance the cost of purchasing all equipment to be used in petroleum operations in the contract area pursuant to the work programmes and such equipment shall become the

property of NNPC on arrival in Nigeria. Though the Contractor has the right to use such equipment, such right ceases on expiration of the contract.

(c) Title to all lands purchased or otherwise acquired by the Contractor for the purpose of petroleum operations and all moveable property and structures used in the contract area shall be in the name of NNPC. On termination of the contract, NNPC shall take possession of such lands, property and all fixed assets purchased or otherwise acquired by the Contractor.

On the face of it, PSC provisions like this look too good for NNPC and too bad for IOCs. But on a deeper look, it is as much good for IOCs as for NNPC, if not better for the IOCs. Fixed assets once mounted lose value when uprooted. If NNPC does not take over such assets IOCs operating PSCs with NNPC will suffer huge financial loss when they dismantle them. While the cost of dismantling such equipment and moving them is very high, their second hand value is low. So the IOC is better off if such assets or equipment are taken off it by NNPC. If there is any loss such as the one referred to here, NNPC bears the loss.

Carry Provision

This provision in a PSC requires the IOC bear the initial host of exploration and production.

Recovery of Operating Cost and Crude Oil Allocation

A PSC agreement always contains a Recovery of Operating Cost and Crude Oil Allocation clause. Such a clause will provide that:

- a. Royalty oil shall be allocated to NNPC in such quantum as would generate an amount of proceeds equal to actual royalty payable during each month and the concession rental payable annually;
- b. Cost oil shall be allocated to the Contractor in such quantum as will be sufficient for recovery of operating cost;
- c. Tax oil shall be allocated to NNPC in such quantum as will generate amount of proceeds equal to the actual PPT liability payable during each month;
- d. Profit oil is the balance of available crude oil after deducting the first three crude oils and shall be allocated to each party based on agreement.

Bonuses

A PSC contract will usually contain a bonus clause which will require the Contractor to pay signature bonus on the effective date of the contract. Such bonus would usually be required to be paid into an account designated by government. Between 2000 and 2007, the Petroleum Trust Development Fund account was the designated account signature bonuses were paid into.

A PSC agreement will also provide for production bonus. This is payable on attaining certain levels of production. Once paid, both signature bonus and production bonus are non-refundable.¹

Royalty and Taxes

PSC agreements graduate their royalties and taxes the way they are graduated in the Deep Offshore Act. By this graduation, more royalties and taxes are imposed on shallow waters while less taxes are imposed in deep offshore. In respect of royalties, the Petroleum Drilling and Production regulations graduate royalties thus:

- i. In onshore areas20%
- ii. In areas up to 100 metres water depth18.5%
- iii. In areas up to 200 metres water depth.....16.5%
- iv. In areas up to 201 to 500 metres water depth.....12.5%
- v. In areas up to 501 to 800 metres water depth.....8%
- vi. In areas up to 801 to 1000 metres water depth.....4%
- vii. In areas beyond 1000 metres water depth.....0%

While it might have been justifiable for old PSC agreements to contain provisions such as the above because of the then lack of sophisticated technology for Deep Offshore mining, it would not be justifiable for new PSC's to contain such provision given current availability of sophisticated deep offshore mining. Be this as it may, new PSC agreements cannot contain different provisions while the law remains what it is.

Force Majeure

Force majeure provisions in a PSC are similar to those in a Joint Venture Agreement. They both define Force majeure in broad terms and entitle the party prevented from performing his duties due to force majeure to a performance time extension equivalent to the duration of the force majeure.

Confidentiality and Public Announcements

A PSC agreement always contains a confidentiality clause. The clause will provide for instance that the Contractor is required to keep information furnished to it by NNPC, and all plans, maps, drawings, designs, data, technical and financial reports relating to petroleum operations including any discovery of petroleum strictly confidential for all times. Any of these shall not be disclosed to any third party without the prior consent of NNPC. However, this confidentiality and non-disclosure duty would not apply to disclosures to:

- a. Sub Contractors, affiliates, assignees provided that such disclosures are required for the effective performance of the recipient's duties related to petroleum operations;

¹ See regulations. 3 and 4 of Oil in Prospecting Licences (Conversion to Oil Mining Leases) Regulations, 2004 on signature and production bonuses

- b. In compliance with statutory obligations or the requirement of any government agency. The Contractor is required to notify NNPC of such disclosure;
- c. Financial institution involved in the provision of finance for petroleum operations. The recipient of such information in this case is required to agree in writing to keep such information confidential;
- d. A third party for the purpose of negotiating assignment of interest under the contract. Provided such third party makes an undertaking of keeping such information confidential.

Under a PSC, the Contractor is required to take necessary measures to ensure that its employees, agents, representatives etc comply with the duty of confidentiality. The duty of confidentiality continues even after termination or expiration of the contract. It is a continuing obligation.

Minimum work/expenditure provision

This clause obligates the IOC to have completed a measure of operations over a prescribed period. Failure by the IOC to execute the Work Programme to a minimum threshold can lead to the contract being terminated.

Other provisions of a PSC are here below produced in prototype form. The prototype provisions include:

Operating Cost

Operating Costs shall be defined as all costs, expenses paid and obligations incurred by the Contractor in carrying out Petroleum Operations and shall consist of (1) Non-Capital Costs, and (2) Capital Costs.

Non-Capital Costs

Non-Capital Costs means those Operating Costs incurred that are chargeable to the current year's operations. Non-capital Costs include, but are not limited to the following:

- a) General office expenses – office, services and general administration services pertaining to Petroleum Operations including but not limited to, services of legal, financial, purchasing, insurance, accounting, computer, and personnel department; communications, transportation, rental of specialized equipment, scholarships, charitable contributions and educational awards.
- b) Labour and related costs- salaries and wages, including bonuses of employees of the Contractor who are directly engaged in the conduct of Petroleum Operations, whether temporarily or permanently assigned, irrespective of the location of such employee including but not limited to, the costs of employee benefits, customary allowances and personal expenses incurred under the Contractor's practice and policy, and amounts imposed by applicable Governmental authorities which are applicable to such employees. These costs and expenses shall include:

- i. Cost of established plans for employee group life insurance, hospitalization, pension, retirement, savings and other benefit plan;
 - ii. Cost of holidays, vacations, sickness and disability benefits;
 - iii. Cost of living, house and other customary allowances;
 - iv. Reasonable personal expenses which are reimbursable under the Contractor's standard personnel policies;
 - v. Obligations imposed by Governmental authorities;
 - vi. Costs of transpiration of employees, other than as provided in paragraph (c) below, as required in the conduct of Petroleum Operations; and
 - vii. Charges in respect of employees temporarily engaged in Petroleum Operations which shall be calculated to reflect the actual costs thereto during the period or periods of such engagement.
- c. Employee relocation costs – costs for relocation, transportation and transfer of employees of the Contractor engaged in Petroleum Operations pursuant to this Contract including, but not limited to the costs of freight and passenger service of such employees' families and their personal and household effects together with meals, hotel and other expenditures related to such transfer incurred with respect to:
- i. Employees of the Contractor within Nigeria, including expatriate employees, engaged in Petroleum Operation;
 - ii. Transfer to Nigeria for engagement in Petroleum Operations;
 - iii. Relocation costs and other expenses incurred in the final repatriation or transfer of the Contractor's expatriate employees and families in the case of such employees' retirement, or separation from the Contractor, or in the case of such employees' relocation to the Contractor's Head Office; provided that relocation Costs incurred in moving an expatriate employee and his family beyond his point of origin, established at the time of his transfer to Nigeria, will not be recoverable as Operating Cost and provided that no charge shall be made to the Petroleum Operation with respect to the expenses incurred in the final repatriation or transfer of the expatriate employees and families to other areas outside of the Contract Area.
 - iv. Nigerian employees on training assignments outside the Contract Area.
- d) Services provided by third parties – cost of professional, technical, consultation, utilities and other services procured from third party sources pursuant to any contract or other arrangements between such third parties and the Contractor for the purpose of Petroleum Operations.
- e) Legal expenses – All costs or expenses of handling, investigating, asserting, defending, and settling litigation or claims arising out of or relating to Petroleum Operations or necessary to protect or recover property used in Petroleum Operations including, but not limited to, legal fees, court costs, arbitration costs, cost of investigation or procuring evidence and amounts paid in settlement or

satisfaction of any such litigation, arbitration or claims in accordance with the provisions of this Contract.

- f) Services provided by Affiliates of the Contractor. These include professional, administrative, scientific and technical services for the direct benefit of Petroleum Operations including, but not limited to, services provided by the exploration, production, legal, financial, purchasing, insurance, accounting and computer services departments of such Affiliates. Charges for providing these services shall reflect the actual cost only and must be consistent with international market prices and shall not include any element of profit.
- g) Head Office overhead charge.
- h) Interests on loans used to finance Petroleum Operations provided such loans were with the prior approval NNPC, and not higher than the prevailing commercial rates.
- i) Insurance premiums and settlements: Premiums paid for insurance normally required to be taken for petroleum operations.
- j) Duties and taxes: All duties and taxes, fees and any Government assessments, including but not limited to, gas flare charges, licence fees, customs duties, and any other payments to the Government other than Royalties, PPT and Concession Rental.
- k) Intangible drilling costs: Expenditures for labour, fuel, repairs, maintenance, hauling, and supplies and materials (not including, casing and other well fixtures) which are for or incidental to drilling, cleaning, deepening or completing wells or the preparation thereof incurred in respect of:
 - i. Determination of well locations, geological, geophysical, topographical and geographical surveys for site evaluation preparatory to drilling including the
 - ii. Drilling, shooting, testing and cleaning wells,
 - iii. Erection of rigs and tankage assembly and installation of pipelines and other plans and equipment required in the preparation or drilling of wells producing Crude Oil.
- l) Geological and geophysical surveys – labour, materials and services used in aerial, geological, topographical, geophysical and seismic surveys incurred in connection with exploration excluding however the purchase of data from NNPC.
- m) Operating expenses: Labour, materials and services used in day to day oil well operations, oil field production facilities operations, secondary recovery operations; storage, transportation, delivery and marketing operations; and other operating activities, including repairs, well workovers, maintenance and related leasing or rental of all materials, equipment and supplies.
- n) Exploration and appraisal drilling: All expenditures incurred in connection with exploration drilling, and the drilling of the first two appraisal wells in a particular field, and drilling of development wells which are dry, including costs incurred in respect of casting, well cement and well fixtures,.

- o) Abandonment: A provision for all expenditures incurred in connection with the plugging of wells; the removal and disposal of equipment and facilities including well heads, processing and storage facilities, platforms, pipelines, transport and export facilities, roads, buildings, wharves, plants, machinery, fixtures, the restoration of sites and structures including the payment of damages to property lessors. The expenditures will be estimated on the basis of technical studies by the Contractor to be agreed on by the Management Committee. The Contractor shall budget and set aside a Fund for the provision of such expenditure at a time the Contractor considers appropriate taking into account the relationship between estimated total abandonment cost and anticipated remaining production revenues from the Contract Area.

Capital Costs

Without limitation, *Capital Costs* means expenditures which are subject to a Capital Allowance under the PPT Act. Such expenditures normally have a useful life beyond the year incurred and include but are not limited to the following:

- a) Plant expenditures: Expenditures in connection with the design, construction, and installation of plant facilities (including, machinery, fixtures, and appurtenances) associated with the production, treating, and processing of Crude Oil (excepts such costs properly allocable to intangible drilling costs) including, offshore platforms, secondary or enhanced recovery systems, gas injection, water disposal, expenditures for equipment, machinery and fixtures purchased to conduct Petroleum Operations such as office furniture and fixtures, office equipment, barges, floating crafts, automotive equipment, Petroleum Operational aircraft, construction equipment, miscellaneous equipment.
- b) Pipeline and storage expenditures: Expenditures in connection with the design, installation, construction of pipeline, transportation, storage, and terminal facilities associated with Petroleum Operations including tanks, metering, and export lines.
- c) Building expenditure: Expenditures incurred in connection with the construction of buildings, structures of works of a permanent nature including workshops, warehouses, offices, roads, wharves, furniture and fixtures related to employee housing and recreational facilities and other tangible property incidental to construction.
- d) Drilling expenditures: Expenditures for tangible goods in connection with drilling wells such as casing, tubing, surface and sub-surface production equipment, flow lines, instruments; costs incurred in with the acquisition of rights over the Contract Area.
- e) Pre-Production expenditures- all costs (including those otherwise falling within Non-Capital Costs.
- f) Material inventory – cost of materials purchased and maintained as inventory items solely for Petroleum Operations subject to the following provisions:

- i. The Contractor shall supply or purchase any materials required for the Petroleum Operations, including those required in the foreseeable future. Inventory stock levels shall take account of the time necessary to provide the replacement, emergency needs and similar considerations.
- ii. Materials purchased by the Contractor for use in the Petroleum Operations shall be valued so as to include invoice price (less prepayment discounts, cash discounts if any) plus freight and forwarding charges between point of supply and point of destination but not included in the invoice price, inspection costs, insurance, customs fees and taxes on imported materials required for this Contract.
- iii. Materials not available in Nigeria supplied by the Contractor or from its Affiliates' stocks shall be valued at the current competitive cost in the international market.

Computation of Royalty, Concession Rentals and PPT

The Contractor shall compute the amount of Royalty and Concession Rentals payable to Government in a given month based on the prevailing fiscal value of the Crude Oil produced during the second preceding month. The Royalty shall be computed as follows:

Royalty

Royalty rates will be graduated as follows:

Area	Rate
In areas up to 200 metres water depth	16.67%
In areas from 201 to 500 metres water depth	12%
In areas from 501 to 800 metres water depth	8%
In areas from 801 to 1,000 metres water depth	4%
In areas in excess of 1,000 metres water depth	0%

- a) The Contractor shall compute the Petroleum Profit Tax (PPT) payable in accordance with this Contract in accordance with the provisions of the Petroleum Profit Tax Act (PPTA) and any prevailing Government fiscal incentives including, but not limited to, any credit which offset PPT liability.
- b) The PPT shall be in accordance with the PPT Act 1959 as amended.
- c) The PPT rate applicable to the Contract Area shall be fifty percent (50%) for the duration of this contract.
- d) The Investment Tax Credit (ITC) shall, subject to the provision of the PPT Act as amended such that the chargeable tax is the amount of the assessable tax less tax offsets of which ITC is an item. The chargeable tax so derived shall be split between the Corporation and the Contractor in accordance with the proportion of the percentage of Profit Oil split.
- e) The Corporation shall make all required PPT payments to Federal Board of Inland Revenue.

Lifting Allocation

After production of oil under a PSC Agreement, the oil produced needs to be lifted for sale. Below are prototype provisions on lifting allocation under a PSC.

1. On or before September 30 of every year, the Contractor shall advise the Parties of its forecast of Available Crude Oil to be produced by grades during each month of the first six (6) months of the ensuing Year.
2. On or before March 31 of every year, the Contractor shall advise the Corporation of its forecast of Available Crude Oil to be produced by grades during each month of the six (6) months commencing July 1, of the Year.
3. Thirty-five (35) days before commencement of production from the Contract Area and thereafter thirty-five (35) days prior to the beginning of the Forecast Quarter, the Contractor shall notify the Corporation of the estimated Lifting Allocation which can be produced and made available for disposal during the Forecast Quarter. Such estimated Lifting Allocation shall take into account any Proceeds Imbalance for the quarter first preceding the Current Quarter and any estimated Proceeds Imbalance for the Current Quarter.
4. Twenty-five (25) days before the commencement of production from the Contract Area and thereafter not later than twenty-five (25) days before the beginning of Forecast Quarter, each Party shall notify the other of its Primary Nomination of Available Crude Oil which it intends to lift during the Forecast Quarter which shall not exceed its estimated Lifting Allocation.
5. Each Party shall be obligated to lift its own Lifting Allocation in accordance with the Nomination, Ship Scheduling and Lifting Procedure. In the event one Party lifts the other Party's Lifting Allocation the non-lifting Party shall, to the extent that it would be paid by the lifting party for what the lifting party lifted, be treated for all other purpose under this Contract as though it has made such lifting itself.

Adjustments of Lifting Allocations

1. On or before thirty-five (35) days prior to the last day of the Current Quarter, the Lifting Allocation for the first preceding quarter thereto shall be computed and the Proceeds Imbalance determined and agreed to by NNPC.
2. The Proceeds Imbalance for the first preceding quarter computed shall be taken into account by the Parties by debiting or crediting such Proceeds Imbalances to each Party's share of the estimated Lifting Allocation
3. Notwithstanding other reports required to be kept by the Contractor, the Contractor shall keep complete records of all liftings. At the end of each quarter, the Parties will meet to reconcile the Lifting Allocations and the actual lifting with a view to making adjustments as appropriate. If any disagreement arises with respect to such reconciliation, the area of disagreement shall be mutually resolved by the Parties, in accordance with the official records of the Ministry.

4. All Lifting Allocations and actual liftings shall be audited at the end of each calendar year by a mutually acceptable independent auditor.

Definition of Terms

Oil produced for lifting by parties under a PSC carry different nomenclature depending on the consideration involved. Below are various terms for oil produced or to be produced or for oil that can be produced and for oil to be allocated to parties under a PSC agreement. Each term carries a technical definition that is strictly interpreted.

- (a) **Available Production** means the quantity of petroleum which can be efficiently and economically produced and saved from the producing wells subject to any limitations imposed by government authority or other technical limitations resulting from operations.
- (b) **Technical Allowable Production** means the quantity of petroleum from time to time determined by the Ministry as being the quantity that may be produced from the Contract area on a well by well basis for a particular period.
- (c) **Commercial Production Quota** means the quantity of petroleum from time to time fixed or advised by the contract area on a crude stream basis for a particular month/quarter.
- (d) **Actual Production** means the quantity of petroleum which is produced from the contract area on a monthly/quarterly basis.
- (e) **Available Monthly Scheduling Quantity** means each party's allocation of the available production for the calendar month plus opening stock.
- (f) **Combined Lifting Schedule** means the lifting programmes of the parties for a given calendar month/quarter as prepared by the Contractor and agreed to by the parties.
- (g) **Opening Stock** means the quantity of crude oil that each party may carry forward to the succeeding month, recognizing the difficulty in lifting precisely the available monthly scheduling quantity. This quantity which excludes unpumpable dead stock, should not be such as to cause a production shut-in through reaching maximum stock levels.
- (h) **Primary Nomination** means a written statement issued by one party to the other at least twenty-five (25) days prior to the commencement of each calendar month its production nominations based on its allocation of the commercial production quota crude oil by grade, which it desires to take during the particular calendar month plus opening stock.

Production/Notice of Availability

The Contractor who produces oil under a PSC agreement needs to inform NNPC in advance of oil it will produce in the contract area at a particular future time. The Contractor does this by *Production Notice of Availability*.

1. On or before September 30th of every year, the Contractor shall advise the parties of its forecast of the available production to be produced by grades during each month of the first six (6) months of the ensuing year.
2. On or before March 31st of every year, the Contractor shall advise Corporation of its forecast of the available production to be produced by grades during each month of six months commencing July 1, of the year.
3. Where for operational reasons the Contractor cannot exactly produce at the anticipated commercial production quota, the Contractor shall notify the Corporation promptly of any required changes exceeding 2% of the quantities originally notified.
5. In any event, when actual production for the month/quarter is known, each party's allocation will be re-calculated and the differences between actual production and commercial production quota will be credited/debited to each party, and shall form the party's entitlement for the following month or quarter except in the case of production shut-ins.
5. Twenty-one days before commencement of production from the contract area and thereafter not later than twenty-one days before the beginning of each month, each party shall notify the other of its primary nomination of available crude oil which it intend(s) to lift during the ensuing month, which shall not exceed its monthly allocation of commercial production quota plus opening stock.
6. At the end of each month or quarter, as may be agreed, parties will meet to reconcile available monthly scheduling quantities with actual available crude lifted and adjustments made where necessary. All entitlements shall be audited at the end of each calendar year by a mutually acceptable independent auditor. The Contractor shall keep complete records of all liftings and provide same to the Corporation.

The Contractor's Reports

The Contractor being the one that carries on operations under a PSC, it is required to keep records of its operations and render periodic reports to NNPC. A PSC agreement will pursuant to this duty of the Contractor will contain the following provisions.

1. The Contractor shall, not more than fifteen (15) working days after the end of each calendar month, and quarter, prepare and furnish to the Corporation a written statement showing in respect of the month and quarter respectively:
 - (a) Production Quota: Each party's allocation of commercial production quota;
 - (b) Lifting against available crude oil;
 - (c) Each party's allocation of available crude oil;
 - (d) Quantity of crude oil in stock for each party at the end of the said calendar month or quarter; and
 - (e) Any production losses attributable to crude oil used in petroleum operations.
 - (f) Cumulative production.

2. In the event the Corporation disagrees with any of the Contractor's reports, the area of the disagreement shall mutually resolved by the by the Contractor and the Corporation to the satisfaction of the ministry. The Contractor shall thereafter prepare to revised report to reflect the changes agreed.

3. The Contractor must also endeavour to send consistent statistical data to the different reporting bodies and should adhere to agreed formats of reporting.

Project Implementation Procedure

1. The Contractor realizing the need for a project or contract shall introduce it as part of the proposed Work Programme and Budgets to be developed and submitted by the Contractor to the Management Committee.

2. The Contractor shall provide adequate information with respect to the project including, without limitation to the following:

- i. A clear definition of the necessity and objectives of the project;
- ii. Scope of the project; and
- iii. Cost estimate thereof.

3. The Contractor shall transmit the project proposal along with all related documentation to the Corporation for consideration.

4. The Corporation may make recommendations in writing to the Contractor regarding the selection, scope and timing of the project.

5. The Management Committee shall consider the proposal and the recommendations of the Corporation and shall determine the matter. Any disputed issues shall be resolved by the Management Committee.

6. If the project is approved, it shall form part of the Work Programme and Budget of the Petroleum Operations. Such approval shall also constitute authorizations by the Management Committee to the Contractor to initiate contracts and purchases relevant to the project proposal,

7. The resources for the project design, supervision, and management shall first be drawn from the Contractor's available in-house expertise. If the Management Committee approves, such may be performed by the Contractor's Affiliate under the approved budget for the project. Competent Nigerian Engineering/Design companies shall be given priority over others by the Management Committee for such projects. The Corporation staff who shall be seconded pursuant to the provisions of the Contract shall be fully involved in the project design, supervision and management.

8. After approval of the project/budget, the Contractor shall prepare and transmit to the Corporation complete details of the project including, without limitation, the following:

- a) Project definition;
- b) Project specification;

- c) Flow diagrams;
- d) Projects implementation schedule showing all phases of the project including, without limitation, engineering design, material/equipment procurement, inspection, transportation, fabrication/construction, installation, testing and commissioning;
- e) Major equipment specifications;
- f) Cost estimate of the project;
- g) An activity status report; and
- h) Copies of all approved Authority for Expenditure (AFEs).

Scheduling Notification

After crude oil has been produced and allocated to parties pursuant to a PSC agreement, the allocated crude needs to be lifted. Each party is required to prepare its lifting schedule for orderly and efficient lifting. Below are prototype provisions for crude oil lifting schedules under a PSC agreement.

1. At least twenty-five (25) days prior to the beginning of a calendar month, the Corporation shall notify the Contractor of its proposed tanker schedule for that calendar month specifying the following:

- (a) A loading date range of ten (10) days of each tanker lifting;
- (b) The desired parcel size for each lifting in barrels, subject always to change within a range of plus or minus five percent (5%) by the party so nominating;
- (c) The tanker's name or To Be Named (TBN) for each tanker lifting. Tanker nominations made as TBN shall be replaced at least five (5) working days prior to the accepted date range, unless a shorter time is acceptable to the Contractor; and
- (d) Documentation instructions shall be given for each lifting not later than four (4) days prior to the first day of the accepted date range for the tanker in question.

Tanker Substitution: Either party may substitute another tanker to lift its nominated volume of crude oil, provided such substituted tanker has the same arrival date range as the originally scheduled tanker.

Overlapping Date Ranges: In the event the combined lifting schedule contains overlapping accepted date ranges, the tanker which gives its Notice Of Readiness (NOR) and has provided all documentation and obtained clearances first within such accepted date ranges be loaded first, unless urgent operational requirements dictate otherwise in which case, demurrage shall be borne by petroleum operations and charged to operating costs.

Confirmation of Lifting Schedules: At least fifteen (15) days prior to the beginning of a calendar month, the Contractor shall either confirm the feasibility of the proposed monthly lifting schedules or, alternatively, advise necessary modifications to such schedules. Such confirmation which shall be in the form of combined lifting schedule,

should include a loading date range of three (3) days for each lifting, the first day being the earliest date of arrival and the third day being the latest date of arrival.

Operational Delays: The parties recognize that occasionally environmental and technical problems in the contract area may cause delays and/or disruptions in the combined lifting schedule. The Contractor shall promptly notify the Corporation of such delays and/or disruptions, and the projected termination of each of such delays and/or disruptions and advise the Corporation of the revised combined lifting schedule. In the event such notification does not allow for a revised combined lifting schedule on the part of the Corporation, then any resultant costs will be charged to operating costs.

Estimated Delayed Arrival of a Tanker: Whenever it becomes apparent that a tanker will not be available as scheduled or will be delayed, the party utilizing such tanker shall notify the other party of the circumstances and expected duration of the days. Upon assessing the impact that the delay will have upon the combined lifting schedule and production during the current and/or next month, the Contractor shall make appropriate revision(s) to the combined lifting schedule to avoid disruption in production. In the event that any party fails to lift its nominated share of production in any month/quarter due to circumstances beyond the party's control or difficulties in maintaining the lifting schedule, that party shall have the right during the following quarter/month to lift the unlifted quantities.

Tanker standards: All tankers nominated for lifting by any party shall conform to the internal regulations and standards concerning size, equipment, safety, maintenance and the like adopted by the Contractor for the Terminal in question and by the appropriate government authority. The Contractor shall keep the Corporation advised as to the current regulations and standards in use at the terminals operated by the Contractor.

Destination of Crude Oil: The Contractor shall at all times disclose the destination of the crude oil lifted under this contract.

Production Decreases/Increases Subsequent to Nomination

Usually crude oil lifting nominations by parties under a PSC contract are done before oil is produced by the Contractor (the IOC). It may happen that after lifting nominations have been made, or less oil is produced by the Contractor. A PSC agreement usually provides for what will happen in such a situation. Below is a sample of such provision.

1. Production decreases occurring after lifting nomination have been scheduled and not resulting from the fault of either party shall be shared by the parties in proportion to their respective nominations.

2. Production increases occurring after lifting nominations have been confirmed by the Contractor shall be shared by the parties, in proportion to their respective agreed allocation.
3. To the extent that lifting operations permit, a party shall have the right to adjust its lifting nomination provided that the nominations, entitlements and lifting of the other party are not affected thereby without their express written consent. Adjusted nomination shall always be within the limits of the party's allocated of the commercial production quota, plus opening stock.
4. Any production decrease caused by or resulting directly from the actions of one party shall not affect the availability of entitlement of the other party.
5. The Contractor will, to the greatest extent possible, endeavour not to affect the lifting of the other party.
6. For the avoidance of doubt each party's agreed allocations shall be based on actual production.

Delivery Terms and Conditions

Under a PSC, the Contractor (usually an IOC) is required to be notified of the date of arrival of a tanker to lift oil under a PSC agreement. Notice of a tanker's readiness, late tanker arrival, laytime, demurrage, change of berth, tanker departure, loading hoses and partial cargo are also oil lifting issues provided for in a PSC. Below are sample provisions on these issues.

1. Tanker Notification: The parties shall report, or cause the tankers nominated for lifting to report, by telephone, fax or email, telex to the Contractor of each tanker's schedule arrival date and hour. Parties shall cause such tanker so nominated, or their agent, to report by radio/telex to the Nigerian Government Port Head Official at the port at least seventy-two (72) hours before each tanker's scheduled arrival date giving the tanker's name, call sign, cargo tonnage to be loaded, number of crew, health status, whether or not a doctor is on board and a request for "Free *Pratique*."

2. Notice of Readiness: Upon arrival at the designated safe anchorage at the port or upon the time boarding of the Mooring Master, whichever is earlier, the Master of the tanker shall give the Contractor a Notice of Readiness (NOR) by radio or by letter, as appropriate, confirming that the tanker is ready to load cargo, berth or not to berth. Laytime, as herein provided, shall commence upon the expiration of six (6) running hours after receipt by the Loading Terminal of such notice, or upon the tanker's completion of mooring at the sea loading terminal, whichever first occurs. However, where delay is caused to the tanker getting into berth after giving NOR for any reason over which neither the Contractor nor the loading terminal has control, such delay shall not count as used laytime. In addition time used by tanker while proceeding to berth or awaiting entry and free pratique by customers after the expiration of six running hours free time, shall not count as used laytime.

If the tanker arrives and tenders NOR to load prior to its agreed date range, the Contractor shall endeavour to load the tanker on arrival or as soon thereafter as possible and lay time shall only commence when loading commences. If, however, the Contractor is unable to accept tanker for loading prior to the agreed date range, lay time shall commence at 0600 hours, local time on the first day of the agreed date range or when loading commences, whichever occurs first.

3.Late Tanker Arrival: If a tanker arrives and tenders NOR to load after its accepted date range and other tankers (having arrived during their accepted date-range), are either loading or waiting to load the loading tanker shall be governed by the earliest availability of crude and loading slot, and lay time shall commence only when loading commences.

4. Lay time – The Contractor shall be allowed lay time in running hours equal to one-half of the voyage lay time permitted under World scale, or such other freight scale that is issued in replacement thereof, for loading a full cargo and pro rata thereof for a part cargo, with a minimum of eighteen (18) hours, Sundays and Holidays included. Any delay due to the fault of the tanker or its facilities to load cargo within the time allowed shall not count as used lay time. If rules of the Owner of the vessel or Regulations of Government or appropriate Government Agencies prohibit loading of the cargo at any time, the time so lost shall not count as used lay time. Time consumed loading or discharging ballast or discharging slops shall not count as used lay time. Lay time shall continue until hoses have disconnected.

Lay time allowed for loading a full cargo is “36 Running Hours” with a provision for pro-rating the lay time in the case of vessels loading part cargo. When a vessel is loading one parcel only and operations commence ahead of the acceptance date, there is no demurrage involved unless the vessel completes cargo after the permissible lay time, commencing 0001 hours more than one parcel and more than one acceptance date is awarded, then demurrage will not count unless the total loading is completed after the expiry of the permissible lay time for the last parcel, counting 0001 hours on the last acceptance date.

5. Demurrage – If the Contractor is unable to load within the time allowed, the Contractor shall apply demurrage per running hour (pro rata for a part thereof) for lay time exceeding the allowed lay time as specified herein. The rate of demurrage will be calculated by multiplying the time by the Average Freight Rate Assessment (AFRA) as determined by the London Tanker Brokers Panel. In the event such determination is no longer available, a freight rate assessment shall be mutually agreed by the Parties; which rate shall be appropriate in relation to the size of the tanker and in demurrage rate according to tanker size as specified in the Worldwide Tanker Nominal Freight Scale or such other foreign scale that is issued in replacement thereof. If however, demurrage shall be incurred by reason of fire, storm, explosion, or by strike, picketing, lockout, stoppage or restraint or labour difficulties, or disturbances or by breakdown of machinery or equipment in or about the Loading Terminal, the rate of demurrage as calculated in accordance with the above shall be governed by Force Majeure and

shall not attract any demurrage. Demurrage claims must be notified within ninety (90) days from Bills of Lading date.

6. Change of Berth: The Contractor shall have the right to shift any vessel from one berth to another. Charges of running lines on arrival at and leaving and berth, wharfage and dockage charges at that berth, and any other extra port charges or port expenses incurred by reason of such shifting at the Contractor's request shall be borne by the Contractor and shall count as used lay time. If, however, it is necessary to shift the vessel from the berth because of breakdown of a machinery or other deficiency of the vessel or its crew, the resulting expenses shall be borne by the Party whose Crude Oil is being lifted. The time consumed in such circumstances, shall not count as used lay time. However, the vessel shall lose its regular turn in berth. When the vessel is ready to recommence loading, it shall advise the Contractor and await its turn for rebirthing and such time after notice is given shall not count as used lay time.

7. Tanker Departure: Tanker shall vacate the berth as soon as loading is complete. The Party that scheduled such tanker shall indemnify the Contractor for any direct loss or damage incurred as a result of tanker's failure to vacate the berth promptly including such loss or damage as may be incurred due to resulting delay in the docking of the tanker awaiting the next turn to load at such berth.

8. Loading Hoses: Hoses for loading shall be furnished by the Contractor and shall be connected and disconnected by the tanker's crew under the supervision of a suitable qualified Ship's Officer acting on the advise of the Operator's Mooring Master.

9. Partial Cargo: Should the Contractor supply less than full cargo, for any reasons the tanker shall not be required to proceed to sea until all of her tanks are filled with a combination of cargo and ballast as will place her in a seaworthy condition.

Crude Oil Quantity and Measurement

At the point of loading a ship with crude oil, the quantity, quality and origin of the crude oil is certified. Below are PSC sample provisions on crude oil quality and quantity measurement.

Certification: The quantity and origin of each shipment of Crude Oil shall be determined by the appropriate Government authority at the loading Terminal and set forth in standard certificates quantity, quality and origin. Such party shall designate a representative at its own expenses, who shall have the right to witness the determination of Quantity, Quality and Origin. All reasonable facilities shall be supplied by the Contractor as necessary, to such Party's representatives at the Port to enable such representatives witness the measurements taken at the Loading Terminal.

Acceptance of Certificate: If the Party in question does not appoint a representative, or if such representative appointed as aforesaid agrees with the Certificate of Quantity, Quality and Origin of a shipment of Crude Oil (in which event he shall so indicate by signing the Certificate of Quantity, Quality and Origin), such determinations shall be final and binding on the Parties.

Rejection of Certificate: If the determinations of quantity, quality and origin by the operator have not been approved by such a representative and a dispute arises concerning the quantity, quality and origin of crude oil, recourse shall be had to an independent expert to resolve the dispute on the basis of his special knowledge of the subject matter in this regard and shall be appointed by mutual agreement between the disputing party and the operator; provided, however, that the documentation shall nevertheless be prepared in accordance with the operator's determinations. Such expert shall file his conclusions within thirty (30) days after his date of appointment. Any conclusions of such expert shall be binding upon the operator and the parties. The cost incurred relative to the services of such expert will be shared equally by the operator and the disputing party. Pending the determination of the dispute, the tanker may sail, unless the parties agree otherwise.

Quantity Determination – The quantity of Crude Oil lifted shall be determined at the time of loading on the basis of gauging the terminal tanks before and after the lifting of such Crude Oil. Or otherwise by meter readings installed on the loading line from the tanks, as approved by the appropriate government authority.

Quality Determination: The determination of API Gravity and BS&W content shall be made of each shipment of Crude Oil. BS&W content and API Gravity shall be determined according to standard international practices acceptable to the relevant Government authorities.

Samples: A sample of each shipment of Crude Oil shall be taken. The sample shall be sealed and retained by the Contractor for a maximum of ninety (90) days. The lifting party or its representative shall have the right to receive one (1) gallon sealed sample of the Crude Oil loaded which shall be placed on board the tanker, if so requested.

Subcontracting

Because parties to a PSC agreement cannot conceivably perform all that is required to be performed under the PSC, a PSC agreement allows for subcontracting by the parties particularly the Contractor of what it cannot do. In this way the PSC agreement is a framework agreement that allows for other agreements to be entered into between the Contractor and Sub Contractor. Below are sample provisions of PSC agreements allowing the Contractor to enter into subcontracts with third parties.

1. The Contractor shall have the authority, subject to any limitations or restrictions established by the Management Committee, to enter into any contract or place any purchase order in its own name for the performance of services or the procurement of facilities, equipment, materials or supplies, provided that:
 - a) Prior approval of the Corporation (NNPC) shall be obtained for all foreign contracts and foreign purchase orders awarded to third parties where the cost exceeds seven hundred and fifty thousand U.S. Dollars;
 - b) Prior approval of the Corporation shall be obtained for all local contracts and purchase orders where the cost exceeds two million Naira;

- c) The amounts set forth in (a) and (b) will be reviewed by the Management Committee whenever it becomes apparent to either Party that such limits create unreasonable constraints on petroleum operations.
- d) Such contracts shall be entered into, and such purchase orders shall be placed with third parties, which in the Contractor's opinion are technically and financially able to properly perform their obligations;
- e) Procedures customary in the oil industry for securing competitive prices shall prevail.
- f) The Contractor shall give preference to The Contractors that are companies organized under the laws of Nigeria to the maximum extent possible provided they meet the required standards.
- g) The Contractor shall give preference to such goods which are manufactured or produced in Nigeria or services rendered by Nigerians provided they meet specifications and standards.
- h) The above limits and these procedure shall not apply to purchases made for warehouse replenishment stock not exceeding seven hundred and fifty thousand U.S. dollars or one eighty million naira.

Contract Tender Procedure

1. The Contractor shall maintain a list of approved contractors for the purposes of contracts for petroleum operations. The Corporation shall have the right to nominate The Contractors to be included/deleted in the list. The Corporation and the Contractor shall be responsible for pre-qualifying any The Contractor to be included in the Approved The Contractors' List.
2. The Contractors included in the Approved Contractors' List shall be both local and/or overseas Contractors or entities. Where regulations require, they shall be registered with the Petroleum Resources Department of the Ministry of Petroleum and Mineral Resources.
3. When a contract is to be bided for, the Contractor shall present a list of proposed bidders to the Corporation for concurrence not less than fourteen working days before the issuance of invitations to bid to prospective contractors. The Corporation may propose additional names to be included in the list of proposed bidders or the deletion of any one thereof. Contract specifications shall be in English and in a recognized format used in the international petroleum industry.
4. If the Corporation has not responded within fourteen working days from the date of it receiving the list of the proposed bidders from the Contractor, the list shall be deemed to have been approved.
5. The Contractor shall establish a Tender Committee which shall be responsible for pre-qualifying bidders, sending out bid invitations, receiving and evaluating bids and determining successful bidders to whom contracts shall be awarded.
6. Analyses and recommendations of bids received and opened by the Tender Committee shall be sent by the Contractor to the Corporation for approval before

a contract is signed with the selected The Contractor. The Corporation shall respond within fifteen (15) working days from the date of official receipt. Approval of the Contractor's recommendations shall be deemed to have been given if the Corporation has not responded within the said period.

7. Prospective vendors/Contractors for work estimated in excess of seven hundred and fifty thousand U.S. Dollars shall submit the commercial summary of their bids to the Contractor in two properly sealed envelopes, one addressed to the Contractor and the other addressed to the Corporation. The Contractor shall retain one and send one to the Corporation, properly enveloped, sealed and addressed to Corporation.
8. In all cases in which an offshore, the Contractor or its Nigerian Affiliate is invited to bid, the Contractor shall make full disclosure to the Corporation of its relationship, if any, with such Contractor.
9. These Procedures may be waived and the Contractor may negotiate directly with the sub-contractor and promptly inform the Corporation of the outcome of such negotiations in the following cases:
 - a) Emergency situations; and
 - b) In work requiring specialized skills, or when special circumstances warrant, upon the approval of the Corporation.

General Conditions for Subcontracting

A PSC agreement also contains general conditions for subcontracting. Below are sample provisions of such conditions.

1. Payment terms shall provide, without limitation, that:
 - a) A minimum of 10% of contract price shall be held as a retention fee until after the end of a guarantee period agreed with the Contractor; provided that, a Contractor may be given the option to provide other guarantee equivalent to the 10% retention such as Letter of Credit or Performance Bond; and
 - b) Provisions shall be made for appropriate withholding tax as may be applicable.
2. The language of all contracts shall be English.
3. The governing law of all agreements signed with contractors shall be Nigerian law for work to be conducted in Nigeria and to the extent feasible, for work outside Nigeria.
4. Nigerian law shall apply to contractors performing in Nigeria and, as far as practicable, they shall use Nigerian resources both human and material.
5. All contracts shall include a provision whereby the sub-contractor shall hold the Contractor harmless and indemnify the Contractor from and against all liabilities, losses, damages and claims resulting from claims and suit by third parties.
6. Each contract shall provide for early termination upon notice and the Contractor shall use all reasonable endeavours to obtain a termination provision with minimal penalty.

7. Sub-contractors shall provide, in the case of a foreign Sub-contractor, that the local part of the work, in all cases, shall be performed by the sub-contractor's local subsidiary.

Materials and Equipment Procurement

A PSC agreement and subcontracts under it require materials and equipment for its performance. Consequently the PSC agreement always provide for procurement of materials and equipment. Below are sample provisions of a PSC agreement on materials and equipment procurement.

1. The Contractor may, through its own in-house or parent company procure materials and equipment subject to conditions set forth in the PSC agreement.
2. In ordering the equipment/materials, the Contractor shall obtain from vendors/manufacturers such rebates/discounts and such warranties/guarantees that such vendors/manufacturers normally offer, and all rebates, discounts, guarantees and all other grants and responsibilities shall be for the benefit of the Petroleum Operations.
3. The Contractor shall:
 - a) By means of established policies and procedures ensure that its procurement efforts provide the best total value, with proper consideration of quality, service, price, delivery and Operating Costs to the benefit of the Petroleum Operations;
 - b) Maintain appropriate records, which shall be kept up to date, clearly documenting procurement activities;
 - c) Provide quarterly and annual inventory of materials in stock;
 - d) Provide a quarterly listing of excess materials in its stock list to the Corporation; and
 - e) Check the excess material listings from other companies, to identify materials available in the country prior to initiating any foreign purchase order.
4. The Contractor shall initiate and maintain policies and practices which provide a competitive environment/climate amongst local and/or overseas suppliers. Competitive quotation processed shall be employed for all local procurement where the estimated value exceeds in equivalent of one million U.S. Dollars.
5. Fabrication, wherever practicable shall be done locally. To this effect, the Petroleum Operations recognize and shall accommodate local offers at a premium not exceeding 10%.
6. The Contractor shall give preference to Nigerian indigenous contractors in the award of contracts. Contracts within the agreed financial limited of the Contractor shall be awarded to only competent Nigerian indigenous contractors. Where there are no Nigerian indigenous The Contractors possessing the required skill/capability for the execution of such contracts, the Contractor shall notify the Corporation accordingly.

7. Analyses and recommendations of competitive quotations of a value exceeding the limits imposed by the PSC agreement shall be transmitted to the Corporation for approval before a purchase order is issued to the selected vendor/manufacturer. Approval shall be deemed to have been given if a response has not been received from the Corporation within fifteen (15) working days of receipt by the Corporation of the said analyses and recommendations.
8. Pre-shipment inspection of rig, equipment/stock materials of reasonable value shall be jointly carried out at factory site and quay before shipment at the request of either Party.

Project Monitoring

After a project has been awarded under a PSC agreement, the execution of the project needs to be monitored. A PSC agreement always provide for project monitoring. Below are sample provisions on project monitoring under a PSC agreement.

1. The Contractor shall provide a project report monthly to the Corporation.
2. For major projects exceeding seven hundred and fifty thousand U.S. Dollars or equivalent, the Contractor shall provide to the Corporation a detailed quarterly report which shall include:
 - a) Approved budget total for each project;
 - b) Expenditure on each project;
 - c) Variances and explanations;
 - d) Number and value of construction change orders;
 - e) Bar chart of schedule showing work in progress and work already completed and schedule of mile-stones and significant events; and
 - f) Summary of progress during the reporting period, summary of existing problems, if any, and proposed remedial action, anticipated problems, and percentage of completion.

Provided that the Corporation shall have the right to send its own representatives to assess the project based on the report.

3. In the case of an increase in cost in excess of 10% of the total project cost, the Contractor shall promptly notify the Corporation and obtain necessary budget approval.
4. Not later than six months following the physical completion of any major project whose cost exceeds seven hundred and fifty U.S. Dollars or equivalent, the Contractor shall prepare and deliver to the Corporation a project completion report which shall include the following:
 - a) Cost performance of the project in accordance with the work breakdown a the commencement of the project;
 - b) Significant variations in any item or sub-items;
 - c) Summary of problems and unexpected events encountered during the project; and
 - d) List of excess project materials.

Laws and Regulations

A PSC agreement between NNPC and international oil corporations always provide that the contract shall be governed and construed in accordance with Nigerian law and any dispute arising therefrom shall be settled in accordance with Nigerian law. Where the nation's law changes after entering into the contract and such changes materially affect or modify the agreement, parties shall use their best effort to agree to modification of the contract to satisfying both parties. If they cannot agree to such modifications, the matter shall be submitted to arbitration.

Summary view on PSC

Due to the relative success of PSC and the absence of cash calls in them, it might be tempting to the Nigerian government to consider extending PSCs arrangements to areas of the oil industry hitherto under JVs. If government opts for PSCs against JVs, Nigeria instead of participating more in operations of the oil and gas industry, which joint ventures enables it, would once more become a watcher collecting rents, royalties, taxes and bonuses. If this happens, instead of the nation increasing technical competence in oil operations which JVs gives by reason of participation, it will lose ground in technical competence it has already acquired. Because the nation puts in money into a Joint Venture, it is more watchful and attentive of what the international oil corporations do in the field of operation. This makes it a participant in operations. Because the nation does not put in money in the form of cash calls in PSC, it does not have to pay the same attention to operations of PSCs as it does to operations of JVs thereby becoming something of a non-attending watcher of oil operations.

In summary a Production Sharing Contract, as its name implies, focuses on the sharing of the output of oil and gas operations in agreed proportions between an international oil corporation (the Contractor) and a National Oil Corporation as the representative of the government in the venture. This form of contract originated from Indonesia in 1966. It was modelled along the lines of sharecropping in agriculture where the owner of land grants a farmer the right to grow crops on his land and share the proceeds with the farmer in agreed proportion after the harvest. Under a PSC, the Contractor, usually a foreign oil company, bears the entire cost and risk of exploration activities, and only reaps the reward after a commercial find. In the event of a commercial discovery, the Contractor recovers its costs fully from allocation of oil referred to as *cost oil*. Allowance is also made for *royalty oil*. Indeed, in the Nigerian PSC variant, *royalty oil* is taken before *cost oil*. After taking *royalty oil* and *cost oil*, the remaining oil known as *profit oil* is shared by the parties in agreed proportions. The oil and all installations for its discovery and production remain the property of the host government.

Service Contract

Under a service contract, an IOC provides the NOC with services and information to help the country develop its own resources, e.g. the viability of a given field. Once the existence of oil reserves is suspected, the IOC is obliged to develop the reservoir. The IOC may also be engaged to provide equipment and training to employees to operate the petroleum facilities. The IOC in this arrangement is a hired hand working for wages.

Service Contracts may be classified into three:

- a. Pure service Contracts under which the IOC has a priority to purchase a portion of the resulting oil at a pre agreed discount rate.
- b. Technical service contract under which the IOC is retained purely for its technical expertise.
- c. Pure risk service contracts under which the IOC is retained to gather and provide information necessary for the development of the resource.

Under a service contract, NNPC will be the holder of the OPL or OML and will engage the service of the Contractor to explore and produce oil from OPL or OML. The contract term can be 15 or 20 years.

Duties and Obligations of the Contractor

Under a Service contract, the Contractor has the following duties and obligations:

1. Furnishing all funds required for exploration and development and all incidental costs relating thereto.
2. Commencing seismic operations within ten months of the effective date and carrying out fully exploration work obligation of the instrument and shall distribute a minimum amount of 30 million dollars in execution of the work programme.
3. Commencing seismic of exploration works within eighteen months of the effective date.
4. Making available to NNPC within 60 days form the end of the exploration period and also at the end of any renewal period, detailed report evidencing all expenditure and costs incurred on explorations and the work done.
5. Paying to NNPC in US Dollars the difference between the estimated cost of exploration work obligation and the actual cost of exploration at any time the Contractor is unable to complete its exploration work obligation.

6. Carrying out operations hereunder in such a manner as to cause minimum social and ecological disruption and using its best endeavours to cause no damage to public and private properties. If pollution results from the Contractor's operations, the Contractor shall promptly carryout cleaning operations to the satisfaction of the appropriate government authorities. The cost thereon shall be chargeable as exploration, development or production costs as the case may be, unless if such occurrence results from the gross negligence of the Contractor, in which case the Contractor shall bear the full liability thereof.
7. Keeping NNPC informed of all activities carried out during the term of the contract by furnishing NNPC with weekly, monthly, quarterly and annual reports on the progress of operations as well as a comprehensive final report on completion of each specific operation.
8. Providing NNPC's servants, agents and representatives with final and complete access to facilities and records of operations at all times and in any operations being undertaken under the contract.
9. Keeping accounting records of all activities in order to show the expenditure on all operations.
10. Maintaining full and accurate records of all technical operations performed under the contract.
11. Being subject to all Nigerian laws, orders, and regulations applicable to licences and leases.
12. Respecting all rights concerning industrial property and indemnifying holding NNPC harmless from and against all claims, loss, damage, or action arising from violation of such rights. Any such cost to the Contractor relating to the above shall be reimbursable unless it results from the gross negligence of the Contractor.
13. Not transferring or assigning any rights acquired or obligations undertaken by the Contractor under the contract without prior written approval of NNPC which approval will not be unreasonably withheld.
14. Engaging Nigerian nationals to the maximum extent in all aspects of its operations. Only in cases where specialized technical personnel are required and not available from among Nigerians, may the Contractor with prior agreement of NNPC hire non-Nigerians whose level of remuneration will be approved by NNPC provided always and it is understood by both parties that the employment of non-Nigerians shall always be subject to the condition that the Contractor undertakes to train Nigerians in corresponding specialization to replace such non-Nigerian personnel within the shortest possible time.
15. Preparing work programs and budgets and carrying out approved work programs in a good and workmanlike manner and in accordance with internationally acceptable petroleum industry practices and with the object of avoiding waste and obtaining maximum ultimate recovery of petroleum at minimum cost.
16. Indemnifying and holding NNPC, its servants, agents and representatives harmless, from all losses, fees (including legal fees and expenses) of whatever kind

and nature which NNPC may suffer or be compelled to pay to employees, representatives or agents of the Contractors as a consequence of any final decision given by a Nigerian court except where failure to act on the part of NNPC or its employees, agents or representatives contributed to the losses in which case such losses as are attributed to the action or failure on the part of NNPC shall be recoverable by the Contractor as reimbursable.

17. Giving preference to such goods and services which are available in Nigeria and can be rendered by Nigerian citizens provided they meet the required specifications and are competitive in price.
18. Notifying NNPC in writing of its desire to dispose of materials, equipment and/or machinery other than fixed assets belonging to NNPC, NNPC and the Contractor agreeing on the price to be paid by NNPC.

Rights and Obligations of NNPC

1. Full access at all reasonable times during usual business hours to all books, records, inventories and accounts of any kind or nature maintained by the Contractor relating to petroleum operations provided that NNPC gives to the Contractor not less than seven days prior notice in writing.
2. Sole title and ownership of all land acquired by the Contractor for the purpose of operations under the contract and all moveable property used in operations as well as structures permanently fixed to the property other than fixed assets acquired for temporary use, including also all data resulting from petroleum operations under but not limited to geophysical, geological and engineering data, well logs and evaluation status reports and any other data and information that may be acquired during the term of the contract. All such properties shall be vested in NNPC and transferred to NNPC on termination of the contract.
3. Have right of access to the contract area at the reasonable times to inspect and observe petroleum operating of every kind and character carried on in the contract area. The Contractor shall provide NNPC with necessary facilities to gain such access provided that the provision of such facilities shall not unduly interfere with the conduct of petroleum operations.
4. Have the right of first refusal to purchase all materials, equipment or machinery (other than fixed assets which by this agreement are property of NNPC) purchased by the Contractor for the purpose of operations provided that such costs have not been refunded to the Contractor by NNPC.
5. NNPC may at any time, for any cause, request the removal of any person working for the Contractor under the contract.
6. Furnish the Contractor with all geophysical, geological, well production and other data relating to the contract area held by or available to NNPC.
7. Reimburse the Contractor from the proceeds of the commercial fields discovered by the Contractor in the contract area.

8. After the takeover of operations ensure that operations are conducted in a good and workmanlike manner and in accordance with internationally accepted petroleum industry practices and with the object of avoiding waste, and obtaining maximum ultimate recovery of petroleum at minimum cost.

Exploration Programme and Budget

1. The Contractor shall prepare for each financial year programme and budgets for exploration work in the contract area and submit same to NNPC for approval. Such programme and budgets shall be primed to ensure the performance of the exploration work obligations assumed by the Contractor under the contract.
2. NNPC and the Contractor shall meet within a reasonable period each year to revise the programme and budget. In the event the parties fail to approve such programme and budget proposed at such meeting, they shall meet again not later than 14 days to reconsider the programme and budget. If the parties do not mutually approve such programme and budget proposal, the matter shall be referred to the management committee for resolution.
3. The Contractor shall commence drilling of the first well not later 24 months from the commencement of the contract.

Management Committee

The management committee is for the purpose of providing orderly direction of all matters pertaining to petroleum operation and work programs. The powers and duties of the management committee shall include but not limited to:

- (i) Review and approval of all proposal work programs and budget.
- (ii) Review and approval of any recommendation made by either party or by any sub-committee with respect to petroleum operations.
- (iii) Ensuring that the Contractor carries out the decisions of the Management Committee and conducts petroleum operations in accordance with terms and conditions of the contract and any relevant Nigerian law.

Composition of Management Committee

The Management Committee shall consist of

NNPC	-	-	-	3
IOC	-	-	-	3

1. Each party shall designate by notice in writing to the other party the names of its representatives and their alternates to serve as members of the Management Committee.
2. At least 14 business days prior to each scheduled Management Committee meeting, the secretary shall provide and deliver to each member an agenda of matters to be considered during each meeting. No Agenda shall be required in the event of an emergency meeting.

3. Either party may change its representative or alternate from time to time by notifying the other party in writing not less than 10 days in advance of the effective date of such change.
4. NNPC shall appoint the Chairman of the Management Committee, and the Contractor the Secretary. The Secretary shall not be a member of the Management Committee, but shall keep minutes of all meetings and records of all decisions of the Management Committee.
5. Unless otherwise agreed by the parties, the Management Committee shall meet at the Head Office of the Contractor once every 4 calendar months or at such other intervals as may be agreed by the committee. The quorum for each meeting of the management committee shall be 2 NNPC representatives and 2 Contractor's representatives.
6. The Managing Director of the Contractor or his alternative must be present at every Management Committee meeting for a quorum to be formed.
7. The Management Committee shall establish exploration and technical subcommittees such as finance and budget and legal services and any other advisory subcommittees as it considers necessary.
8. Each subcommittees established shall be given terms of reference and shall work subject to the direction of the Management Committee.
9. The Management Committee shall appoint members of the subcommittees which shall be made up of equal representation of the parties. The Chairman and Secretaries of the sub committees shall be appointed by the Management Committee.
10. The deliberations and recommendations of any subcommittee shall be advisory only and shall become binding and effective only on acceptance by the Management Committee.

Appraisal Programme and Budget

1. The Contractor shall advise NNPC immediately petroleum is discovered in any well located in the contract area. Within 90 days from the date of such notice, the Contractor shall submit to NNPC a written report setting forth all relevant information in respect of the drilling of such well together with the Contractor's recommendations as to whether or not appraisal needs to be carried out.
2. If the Contractor considers that further drilling is required or that such well ought to be completed for the production of petroleum, then such report shall include an appraisal programme of such discovery and the budget therefore.
3. Not later than 30 days from the date of the submission of report, the parties shall meet to discuss the Contractor's recommendations with a view to approving them.
4. A second meeting shall be held not later than 30 days if the parties fail to mutually approve an appraisal programme and budget at the 1st meeting. If the parties fail to agree at the 2nd meeting, the appraisal work programme and budget shall be

referred to the Management Committee for resolution. The decision of the Management Committee shall be binding on the parties.

5. Not later than 6 months after completion of the appraisal work programme, the Contractor shall submit to NNPC a report on whether or not a commercial field has been discovered. Such report shall be submitted together with a development drilling programme. Such development drilling programme shall be designed on the basis of sound engineering and economic principles of the petroleum industry and shall ensure that the field shall not suffer excessive rate of decline in petroleum nor excessive loss of reservoir energy.
6. The report and development drilling programme shall also take cognizance of all provisions of the Petroleum Act, 1969 and shall contain without limitation the following:
 - (i) A detailed economic evaluation of the project demonstrating whether in the Contractor's opinions, the field is commercial or not.
 - (ii) Proposals relating to well location, drilling schedule, well completions and a detailed crude oil and/or natural gas processing and evacuation scheme for the field.
 - (iii) A detailed production forecast together with an estimate of the investment and expenses foreseen for the preferred development programme.
 - (iv) Proposals on utilization of associated gas that may be produced with the oil.
 - (v) Proposals on the maintenance of reservoir energy by the injection of water and/or natural gas.
7. The parties shall meet and mutually decide whether or not the Contractor has made a commercial discovery.
8. If the parties decide that the Contractor has made a commercial discovery, the Contractor shall within 30 days from the date of such decision submit to NNPC for approval, the development programme budget to be carried out under the relevant development plan.
9. NNPC and the Contractor shall meet within 30 days of the receipt by NNPC of a development programme and budget to discuss the contents of the development plan and budget and approve or amend same. If the parties fail to reach agreement, the development plan and budget will be referred to the Management Committee for resolution and its decision will be binding on the parties.
10. If development operations are not executed within the periods specified by the Contractor in development programme approved by NNPC due to the Contractor's negligence, NNPC shall take over such works by giving 6 months notice to the Contractor of its intention to do so.

Production Operations

1. Without prejudice to the Contractor's right to repayment and remuneration, NNPC shall have the right to fully take over and conduct all production operations of the commercial field.

2. If after a takeover or repayment period for each commercial field, NNPC needs or decides to resort to a third party for technical services NNPC shall give preference to the Contractor for the carrying out of any such services.
3. During the period of transfer of production to NNPC, both parties shall work out and execute an effective handover programme.
4. All production cost incurred by either party while conducting production operations during the handing over period shall be invoiced at monthly intervals and shall be fully reimbursed to each party from the proceeds of production from the field within 30 days of the date of receipt of the invoice.
5. NNPC shall give the Contractor free access to all production units and other facilities related to fields discovered and developed by the Contractor.
6. The Contractor may keep in Nigeria at its sole costs and expense such personnel as it may require to monitor any aspects of the production operations being conducted by NNPC in those fields taken over by NNPC.

Payment to the Contractor

1. The Contractor shall procure to furnish all funds required for exploration, appraisals and field development operations.
2. All exploration costs and development costs incurred by the Contractor from the effective date of the contract to the establishment of the first commercial production shall be so considered and charged to the applicable field for the purpose of reimbursement of the Contractor.
3. Notwithstanding that production is established in any part of the contract area, the Contractor shall continue to provide all funds required under the approved exploration programme and shall charge such funds against the next established commercial field.
4. In the event an approved exploration programme carried out after the date of commencement of commercial production does not lead to a declaration of a new commercial discovery, 5% of all exploration costs in respect of such approval exploration programme shall be reimbursed to the Contractor out of the proceeds from sales of production from the contract area in proportion to production from each commercial field.
5. In addition to reimbursement of the Contractor for exploration field development cost, NNPC shall pay the Contractor remuneration for services recorded.

Title of NNPC to Petroleum and other Moveables

1. The Contractor shall have no title or ownership to petroleum produced from the Contract area.
2. All lands purchased or otherwise acquired for petroleum operations and all moveable property utilized in the contract area shall become the property of NNPC on termination of the contract.

3. All fixed assets which have been acquired for temporary use by the Contractor in petroleum operations shall be the property of the Contractor and NNPC shall not be under any obligation to reimburse the Contractor for the costs of such assets.
4. NNPC shall have the right of first refusal to purchase from the Contractor all materials, machinery or equipment other than fixed assets that are the property of the Contractor.

Utilization of Natural Gas

1. All Natural Gas discovered in the Contract area shall be the sole property of NNPC.
2. Notwithstanding the provision in Paragraph 1 above, the Contractor shall have the right to use associated natural gas produced with the crude oil at no cost to the Contractor.

Employment and Training of Nigerians

1. Each year the Contractor shall submit a detailed programme for recruitment and training of Nigerians for the forthcoming year.
2. Qualified Nigerians shall be employed in all non-specialized positions.
3. Qualified Nigerians shall also be employed in specialized position such as those in exploration, drilling, engineering, production and finance. The Contractor shall have the right subject to applicable laws, rules and regulations to employ Nigerians in such specialized positions where qualified Nigerians are not available provided that the Contractor shall recruit and train Nigerians for such specialized positions such that the number of non-Nigerian staff shall be kept to a minimum.

It is submitted that the provision that requires IOCs to employ Nigerians should impose on them a duty not to terminate the appointment of such Nigerians without the approval of the Nigerian Minister of Petroleum. Though such a provision may appear to be a clog on *the hire and fire right* of the employer, it is necessary to check the temptation of IOCs firing Nigerian employees for frivolous reasons. For every rule there is an exception. A provision like the one suggested here may be treated as an exception to the rule that entitles an employer to hire and fire. A provision like the one suggested here ought to be inserted in all NNPC contracts with IOCs be the contract a concession, JOA, PSC or service contract. Of course the IOC should have the unencumbered right to dismiss a Nigerian it employed if such Nigerian is guilty of gross misconduct. This however, should be after affording such Nigerian a fair hearing as provided by the IOC's rules and the general law. Dismissal of such Nigerian after following due process, the IOC should be able to do without recourse to the Minister of Petroleum.

In support of the above submission, the 1969 Petroleum provides that the holder of an oil mining lease shall ensure that within ten years from the grant of his lease, the number of citizens of Nigeria employed by him in connection with the lease in managerial, professional and supervisory grades (or any corresponding grades designated by him in a manner approved by the Minister) shall reach at

least 75% of the total number of persons employed by him in those grades; and all skilled, semi-skilled and unskilled workers are citizens of Nigeria.¹

The above provision of the Petroleum Act however, falls short of subjecting IOCs to a duty of not disengaging Nigerians they employ except with the approval of the Minister of Petroleum or for gross misconduct. This omission of the Act leaves Nigerians so employed at the mercies of the whims and caprices of the IOCs that employed. Any wonder such Nigerians always bend over backwards to do the biddings of their employers even to the detriment of their communities.

4. Competent professionals of NNPC shall be attached to work with the Contractor from time to time and such NNPC officials and the Contractor's officials shall not be treated differently with regard to salaries and other benefits.
5. Cost and expenses incurred in the recruitment and training of Nigerians shall be included in operating costs.

Sub Contractors

1. Within 90 days from the commencement of the contract, and thereafter annually the Contractor shall furnish to NNPC a list of Contractors and Sub-contractors who might be invited to bid for operations the Contractor does not intend to handle personally.
2. Without in any way diminishing the Contractor's obligation, the Contractor may at its sole risk engage Sub-contractors for performing the services the Contractor is obligated to perform under the service contract. Such services however shall be performed for and on behalf of the Contractor who shall be directly responsible for all obligations established by the contract and the Contractor shall not in any way be exempted from its responsibilities by reason of the delegation of its duties.
3. Contracts to be entered into between the Contractor and Sub-contractors shall be submitted to NNPC for approval and authorization.

The Contractor's Accounting

1. The Contractor shall prepare quarterly statement of account, assets and liabilities stating in full details all the accounts and expenses incurred in the course of oil operations during such quarter.
2. NNPC shall examine and verify the accuracy and correctness of the statement of account submitted to it by the Contractor. The Contractor on demand by NNPC shall within 15 days of receiving demand notice, produce to NNPC any supporting documents to statements contained in the statement of account.
3. Expenditure expressed in the quarterly statement of account if approved by NNPC shall be treated as incurred expenses which the Contractor is entitled to be paid for.

¹ See paragraph 38 of the first schedule to the 1969 Petroleum Act.

Taxes, Royalties, Dues

1. Custom duties and other duties levied on imports and services by reason of the Contractor's activities in performing exploration, development and production operations shall be regarded as exploration costs, development costs and production costs as the case may be and shall be reimbursed to the Contractor.
2. Taxes due on the Contractor's remuneration in accordance with Company Tax Act shall be borne by the Contractor and shall not be reimbursable.
3. NNPC shall pay all petroleum profit tax and royalties from the production of petroleum won and saved in the contract area.

Insurance

1. The Contractor shall maintain all such insurance policies of a type and limits of liability not less than those required by Nigerian law.
2. All materials which are to become the property of NNPC pursuant to the contract shall be adequately insured by the Contractor.
3. The Contractor shall take and maintain for the period the Contractor is in charge of operations insurance policy covering damages caused to 3rd parties. The Contractor shall defend and hold NNPC harmless from such damages and losses caused to third parties as a result of the wrongful acts or omissions of the Contractor in the performance of the contract.
4. Insurance premiums shall be regarded as explorations development costs.
5. All insurance required for the fulfilment of the Contractor's obligation shall be based on good international petroleum industry practice, it being understood that the insurance taken in order to cover the assets and materials located in Nigerian shall be taken out in the Nigerian insurance market except for those concerning risks the Contractor cannot obtain coverage in Nigerian which shall be taken out abroad through the Nigerian Re-insurance Corporation.
6. The Contractor shall not be exempted from its insurance obligation by subcontracting to sub Contractors.
7. As soon as NNPC takes over production operations, it shall take out and maintain adequate insurance to cover all assets taken over from the Contractor.

Confidentiality

1. The Contractor shall keep any and all plans, maps, displays, designs, data scientific, technical and financial reports and other data and information of any kind or nature relating to the Contractor's obligation, strictly confidential for all times and shall ensure that their entire or partial contents are not disclosed to any third party without the prior written consent of NNPC.
2. The provision of the above clause shall not apply to:
 - (a) The Contractor's affiliated companies

- (b) Sub-contractor, auditors, legal advisers, provided that such disclosure are required for the effective performance of the recipient's duties related to operations under the contract
 - (c) Finance institutions involved in the provision of finance for operations under the contract, provided that the recipients of such data and information agree in writing to keep such data and information strictly confidential
 - (d) The Contractor or its affiliate may disclose such information to the extent necessary to comply with statutory obligations or requirements of a government agency in which case the Contractor will notify NNPC of any information disclosed
3. The Contractor shall take all necessary measures to ensure that its employees agents, representatives, proxies and sub-contractors comply with the same obligations of confidentiality.
 4. The duty of confidentiality shall not be voided by the expiring or termination of the Contract and so the duty of confidentiality shall be a continuing duty.

Force Majeure

1. Any failure or delay on the part of either party in the performance of their obligations or duties under this contract shall be excluded to the extent attributable to force majeure. A Force Majeure Act or event shall include but not limited to delays, defaults or inability to perform under the contract due to circumstances beyond the reasonable control or that could not be reasonably predicted or prevented by either party. Specifically, force majeure includes but is not restricted to acts of God, or the public enemy, perils of navigation, fire, hostilities, war (declared or undeclared), blockade, labour disturbances, strikes, riots insurrections, civil commotion, quarantine restrictions, epidemics, storms, extraordinary floods, earthquakes and accidents exploding and other phenomenal disasters.
2. If operations are delayed, curtailed or prevented by force majeure, then the time for carrying out the obligation and duties thereby affected shall be extended for a period equal to the period lost to the force majeure.
3. The party whose ability to perform its obligations is affected by force majeure shall promptly notify the other party in writing stating the cause and both parties shall do all that is reasonably within their powers to remove such cause, or minimize its effect on the performance of the party's obligations.

Laws and Regulations

This contract shall be governed by and construed in accordance with the laws of the Federal Republic of Nigeria and any dispute arising therefrom shall be determined in accordance with such laws.

If a difference, conflict, controversy, claim or dispute arises between NNPC and the Contractor concerning interpretation or performance of the contract, and if the parties thereto fail to settle such matter by amicable agreement, then either party may

serve on the other a demand for the matter to be referred to arbitration in accordance with the provisions of the Arbitration and Conciliation Act Cap 19 Laws of the Federation of Nigeria 1990. Within 30 days of such demand being served, each party shall appoint an arbitrator and the two arbitrators thus appointed shall within a further 15 days appoint a third arbitrator as the chairman, and if the original arbitrators do not agree on the appointment of such third arbitrator, or if either party fails to appoint the arbitrator to be appointed by it, such arbitrator shall be appointed by a High court in Nigeria on application by either party (notice of the intention to apply to the court having been duly given in writing by the applicant party to the other party) and when appointed, the third arbitrator shall commence meetings and act as the chairman thereat. If an arbitrator fails or is unable to act, a successor to him will be appointed. Arbitration rules and procedures shall be determined by the majority of arbitrators, or in the absence of agreement of any two arbitrators, by the chairman alone. The arbitration award shall be final and binding on the parties and the expenses of arbitration shall be borne by the parties in such proportion and manner as may be provided in the award. The venue of arbitration shall be Lagos, Nigeria, and English language shall be used in conducting the arbitration proceedings.

Termination

1. This contract shall automatically terminate under any of the following circumstances:
 - (a) Expiration of the exploration period or its renewal terms provided that no commercial field has been discovered.
 - (b) NNPC paying off the Contractor and taking over production after oil exploration had led to discovery of commercial oil.
2. The contract may be terminated at any time by the Contractor by giving NNPC not less than 3 months written notice to that effect, provided however that should the Contractor elect to terminate the contract prior to complete execution of minimum work obligation specified in the contract, the Contractor shall pay to NNPC an amount equal to the unexpected portion of the total cost of the minimum work programme.
3. The contract may be terminated by NNPC in case the Contractor:
 - (a) Fails to immediately commence exploration operations within the period specified by the contract;
 - (b) Fails to commence the drilling of the first well within the period specified by the contract;
 - (c) Is in breach of fundamental obligation under the contract.

In summary, a Service Contract is modelled along the lines of the common every day service contract in which a person without technical knowhow contracts a person with technical knowhow to render a particular service after which the service provider is paid. An oil or gas service contract is a contract in which an IOC explores or develops oil or gas fields on behalf of the host government in return for

predetermined fees. Under the Service Contract, the host government does not handover control of the extracted, the subsoil or subsurface resources to the IOC.

A service contract is in the form of a *Buy-back*² or a *Build, Operate and Turnover* contract. It is the surest way for a nation with ambition to get into the business of oil exploration and production to realize its ambition. Iran is such a nation. More than any other form of contract, Iran patronizes the service contract.

Service contracts as earlier shown in this text are of different types. The technical service contract under which an IOC merely renders technical assistance to a national oil company is the contract that moves NNPC nearer to being a participant and not merely an onlooker of oil and gas operations. For this reason, there is need for the corporation to enter into more service contracts of the technical type than is currently the case. However, NNPC can only enter such contracts based on its technical knowhow in the oil and gas industry. Bereft of the requisite knowhow, entering into such contracts will ground the industry.

The progression of a country with ambition to take over the operation of its oil and gas industry is from concession – PSC- joint venture - service contract, and finally to doing the whole thing itself. This clearly is not the progression in Nigeria. From the joint venture agreement, Nigeria is regressing into the PSC.

Before getting to the point of doing it itself, it is worth noting that the type of oil exploration and production contract a nation enters into depends on the challenges it is facing, its patriotism and economic aspirations. If a nation finds itself in a difficult economic situation it has to offer incentives to attract foreign investors to the oil sector, it would opt for such contract that gives such incentives. In such a situation, the nation may downplay its patriotism and offer incentives to foreign investors that may bail it out of its economic straits. Guided by this realism, Iran in 2014 in the straits of economic sanctions for its nuclear programme abandoned its buy-back contract form in favour of Joint Ventures and Production Sharing contracts with IOCs. As soon as a nation overcomes its difficulty however, it should opt for such contract form that advances its economic aspirations and patriotism.

As NNPC enters into PSCs, JVs and SCs with IOCs, so do private indigenous oil companies. Had private indigenous oil companies develop to the level of the technical competence and financial power of international oil corporations, NNPC would have also been entering into all these contracts with them.

² A buy-back contract or agreement is a contract or agreement in which the vendor agrees to repurchase the property from the purchaser if a certain event occurs within a specified period of time. The buy-back price is usually set out in the contract or agreement.

FPSO Charter Contract

The Subcontract Foundations of FPSO Charter Contracts

As shown in the examination of JOA, PSC and SC agreements between NNPC and IOCs, IOCs by reason of their technological superiority and robust financial base are usually either the Operator or the Contractor. As also shown in the text, because of the complex character of petroleum operations, even IOCs with all their technological possession cannot do everything by themselves. They not only have to subcontract certain jobs to sub-contractors, they have to hire the equipment and services of certain petroleum machineries from petroleum service companies. Chartering of FPSO by IOCs in offshore petroleum exploration and production is an example of IOCs hiring of equipment and services.

In a typical FPSO charter contract, an IOC which has a Joint Venture Agreement or a Production Sharing Contract with NNPC will agree to charter the FPSO while the FPSO chartering company will agree to charter the FPSO to the IOC. Some of the terms of an FPSO charter contract are here provided. In the FPSO charter contract sample provided in this text, the IOC is referred to as *the company* while the FPSO chartering company is referred to as *the Contractor*.

Threshold Representations and Assurances by the Contractor

1. The Contractor warrants that the FPSO shall be classed by the Classification Society and shall be in every way fit to store and process crude petroleum and that the FPSO, at the Commencement Date, will conform to the FPSO Description and Specifications agreed by the parties.
2. The FPSO shall be tight, staunch, strong and in good order and condition and in every way fit for the purpose intended with machinery, boilers and other equipment in a good and efficient state.
3. The FPSO including any passenger accommodation shall be at the company's disposal reserving only proper and sufficient space for the Master, officers, crew, tackle, apparel, furniture, provisions and stores.
4. The Contractor shall engineer, procure, modify, convert, fabricate, install, deliver, charter and operate the FPSO and shall perform the Services under the terms and conditions of this Contract.
5. In the performance of this Contract, the Contractor and its personnel shall comply with all applicable present and future laws and regulations of (i) the country of the

FPSO's flag and registry and (ii) the Federal Republic of Nigeria. Any change of registry of the FPSO requested by the Contractor shall be approved by the Company in writing, such approval not to be unreasonably withheld or delayed. Any such change in registry shall not violate the applicable laws or regulations of the Federal Republic of Nigeria, nor affect the performance by the Company of its obligations, including the amounts of compensation payable hereunder, nor shall it affect, unless the Company has previously consented thereto in writing (such consent not to be unreasonably withheld or delayed), the performance by the Contractor of its obligations hereunder.

6. In the event that there is any change in any applicable Nigerian laws or regulations from those in force as at the Contract Date, and such change requires changes in the operation of the FPSO and/or a physical modification to the FPSO and/or increased crew levels on the FPSO during the Contract Period, then the Contractor shall issue a variation proposal and the Company shall issue a Variation Order in respect of additional time and expense incurred by the Contractor as a direct result of such change in Nigerian law or regulation. Changes in the requirements of the Classification Society or the laws, rules, or regulations of the country of the FPSO's flag and registry shall be to The Contractor's account and shall not give rise to a Variation Order or The Contractor Permitted Excuse/Delay.
7. If inspections or tests identify any matter in respect of which the FPSO does not comply with the specifications including without limitation that which is upheld by the Classification Society, the Contractor shall, at its own cost and expense, rectify the matter and submit it for further inspection and testing.
8. Not less than thirty days prior to leaving the shipyard and not less than thirty days prior to the Target Arrival Date, the Contractor shall deliver to the Company lists of outstanding work or items on the FPSO that the Classification Society has accepted in writing will be completed on the voyage to the FPSO Site or will remain as exceptions to the FPSO Classification until the next annual survey by the Classification Society. The Company shall have the right to require that all or part of such outstanding work or items be completed prior to the Commencement Date.

Delivery

1. The Contractor shall procure that the FPSO arrives at the FPSO Site on the *Arrival Date* or before the Target Arrival Date, ready to commence mooring and connection to the oilfield. The Contractor shall procure that the FPSO has been installed on its moorings to the full satisfaction of the Classification Society and is ready to be connected to well flowlines and umbilicals.
2. If the FPSO Installed Date is not achieved, the Contractor shall pay the Company liquidated damages in US dollars for each day the installation fails to take place after the installed date has come and passed, provided that the total amount of

liquidated damages payable by the Contractor hereunder shall not exceed US dollars seven million US dollars.

3. The Contractor shall tender its Notice of Readiness to the Company when the FPSO has been installed on its moorings, the Subsea Construction Work has been completed, and the oil and gas separation train is ready to receive oilfield, unprocessed, crude oil for full commissioning. Within 48 hours of receipt of such notice, the Company shall use all reasonable efforts to procure that oil flows to the FPSO.
4. After installation, a series of 4 tests would be ran on the FPSO to confirm its health and efficiency.

The Contractor's Responsibilities

1. The Contractor shall timely perform all Services with due diligence and in a good, workmanlike and safe manner in accordance with recognized standards of international maritime and petroleum industry practice. The Contractor shall take full responsibility for the adequacy, stability and safety of all its operations and methods necessary for the performance of the Services acting in accordance with recognized standards of international maritime and petroleum industry practice.
2. The FPSO shall be converted, repaired, refurbished, and modified in a workmanlike manner and shall conform with the descriptions thereof contained in the Specifications set out in the agreement.
3. All Services shall conform with the Specifications set out in the agreement. In the absence of any such applicable Specifications, the Services shall be executed in accordance with good engineering practice and to the reasonable satisfaction of the Company and of the Classification Society.
4. All reports and communications, including manuals, data and drawings shall be in the English language. Frequency and format of the reporting shall be subject to the Company's approval.
5. The Contractor shall, excluding the responsibilities of the Company set out in the contract, secure at its expense any and all authorizations and permits required for the FPSO. Any authorizations and permits that can only be obtained in the Company's name shall be the Company's responsibility. Any delays in securing such authorizations or permits shall not be deemed a Contractor's Permitted Excuse/Delay entitling the Contractor to compensation or an extension of time. The Company agrees to provide all reasonable assistance and co-operation as may be required to assist The Contractor in obtaining and maintaining such authorizations and permits.

The Contractor's Personnel

1. The Contractor shall provide such supervisory Personnel as are required to properly execute the Contract. The Contractor shall ensure that there are at all

times at the Site sufficient suitably qualified and experienced Personnel to supervise all work done by the Contractor.

2. The Contractor shall at all times have a full and efficient complement of officers and crew for the FPSO who shall not be less than the number required by the laws of the flag state under which the FPSO sails.
3. The Contractor represents and warrants to the Company that the Contractor's Personnel are competent, efficient and have the qualifications, training and expertise necessary to perform assigned duties under applicable law, regulations and practices of the oil industry. The Contractor shall furnish the number and types of personnel, necessary for it to perform the Services and provide to the Company, curriculum vitae details of said personnel
4. If the Company is of the opinion that any of the Contractor's Personnel is incompetent or has been guilty of a breach of his duties it may advise the Contractor in writing of the reasons for its concern and the Contractor shall immediately investigate the complaint and shall promptly submit the result of its investigation to the Company. After consultation with the Contractor, if the Company remains dissatisfied with the personnel in question, then such personnel shall, on the Company's reasonable request, be removed or replaced as soon as practically possible in order not to disrupt or interfere with the Contractor's other contractual obligations towards the Company.
5. The Contractor shall ensure that all employees of the Contractor and any subcontractor engaged in the performance of the Services comply with applicable laws including immigration laws and where required are in possession of a valid work permit for the duration of the Contract. When requested details of such work permits shall be submitted to the Company prior to the employee being engaged in the Services.

The Company's Obligations

1. The instructions of the Company shall be reasonable and consistent with this Contract. Such instructions shall be confirmed in writing by the Company's Representative prior to implementation. In the event the Company's instructions are not confirmed in writing within fourteen (14) days of issuance of the instruction, such instructions shall be deemed to have been withdrawn.
2. The Company shall obtain and maintain such consents, authorizations, approvals, permits and licenses required to enable it to perform its obligations under the Contract. The Contractor agrees to provide all reasonable assistance and cooperation as may be required to assist the Company in obtaining and maintaining such consents, authorizations, approvals, permits and licenses.
3. The Company undertakes to provide and/or pay for (as the case may be) all items referred to as being Company's responsibility under the contract.
4. The Company agrees to provide all reasonable assistance and cooperation as may be required to assist the Contractor in obtaining and maintaining any and all

consents, authorizations, approvals, visas or work permits which the Contractor may be required to obtain in the country of operations.

5. The Company acknowledges that the Contractor is relying upon the accuracy of the information provided by Company relating to the reservoir properties and environmental conditions of the Oilfield the FPSO will be connected to.

Term of Charter

1. Subject to the Company's voluntary termination option and additional termination rights set out in the contract, the contract period shall consist of the *primary term*, the extension term, and if the option is exercised by the Company in accordance with contract, the *demobilization period*.
2. The *contract period* shall, at the option of the Company (to be notified in writing at least six months prior to the expiry of the *primary term* be extended for a period of one month up to a maximum period of forty-eight months. In the event the extension to the Contract Period is less than forty-eight months, the Company shall have additional options (to be notified in writing at least six months prior to the expiry of the current extension to extend the contract period for a second or more period of at least one month.
3. The *primary term* of this Contract:
 - (a) shall, at the Company's option by notice given not later than six months prior to the expiry of the *primary term*, be extended in time by up to the equivalent number of days for which any of the Downtime Day Rates were applicable during the *primary term*;
 - (b) shall, if the Company so elects by written notice given to the Contractor not later than sixty days after the *commencement date*, be reduced in time by the number of days in respect of which the Company pays the *operating day rate* in respect of the Contractor permitted Excuse/Delay under the contract.

Relationship of the Parties

1. In the performance of this Contract, the Contractor is and shall remain an independent Contractor, maintaining complete and exclusive control over its Personnel. Where the Contractor is required to furnish Personnel, such Personnel shall at all times remain in the employment of the Contractor. The Contractor shall assume all responsibilities and obligations with regard to such Personnel that may be imposed by virtue of any applicable laws and regulations imposed by any authority having jurisdiction including, but not limited to visas and permits.
2. Nothing in this Contract shall be construed so as to appoint or constitute one Party as a representative or agent of the other, and neither Party shall have the authority to commit or bind the other or any of its Affiliates or Co-Venturers.
3. The Company enters into this Contract on its own behalf and will make its own arrangements with any of its Co-Venturers authorized to deliver crude oil to the

FPSO. The Contractor agrees to look only to the Company for the due performance of this Contract (the Company being in all respects fully responsible for such performance), and only the Company may enforce this Contract on behalf of itself and any Co-Venturers.

4. The Master will be in charge of the FPSO and responsible for its safe operation. The Master will also be responsible for, and have ultimate authority in relation to, the safety and discipline of all personnel on board the FPSO. The Company Field Superintendent is, however, responsible for the field operation and has the authority to issue field operational instructions to the Master, provided that these do not conflict with the Master's responsibilities and authority as aforesaid.

Representations and Warranties of the Contractor and the Company

1. The Contractor's obligations pursuant to this Contract shall be performed in a thorough, efficient, workmanlike manner in accordance with recognized standards of international maritime and petroleum industry practice with due diligence and care by qualified and competent personnel. The Contractor warrants that it knows of no reason why any physical or material aspects would interrupt or delay the diligent performance of its obligations hereunder. The Contractor also warrants that it is acquainted with the nature of the duties it undertakes to perform in the Contract and, as at the date of this Contract, knows of no reason and anticipates no interruptions, whether by labour disputes or otherwise, which would prevent it from diligently performing its obligations hereunder.
2. The Contractor represents and warrants that:
 - (a) it is a corporation duly organized and validly existing under the laws of the country of its incorporation; and
 - (b) it has the full power and authority to execute, deliver and perform its obligations under this Contract and to enter into and carry out the transactions contemplated herein and contract execution, delivery and performance will not be in contravention of applicable laws or the Contractor's Memorandum of Association or By-laws or any mortgage, indenture, agreement or undertaking to which the Contractor is a party or by which it is bound. That this Contract has by proper corporate action been duly authorized, executed and delivered by the Contractor and all steps necessary have been taken by the Contractor to constitute this Contract a valid and binding obligation of the Contractor.
3. The Contractor agrees to furnish the Company upon request such evidence of the authorizations, approvals, actions and/or registrations referred to in contract.
4. The Company represents and warrants that:
 - (a) it is a corporation duly organized and validly existing under the laws of Nigeria ;

- (b) it has the full power and authority to execute, deliver and perform its obligations under this Contract and to enter into and carry out the transactions contemplated herein. That the Company's execution, delivery and performance of the contract are not in contravention of applicable law or the Company's Memorandum of Association or By-laws, or any mortgage, indenture, agreement or undertaking to which the Company is a party or by which it is bound. That the contract has by proper corporate action been duly authorized, executed and delivered by the Company and all steps necessary to constitute the contract a valid and binding obligation of Company have been taken.
 - (c) it is entitled to extract, develop and produce oil and gas from the oilfield and export the stabilized oil from the FPSO Site.
5. The Company shall maintain at all times during the Contract Period, such consents, authorizations approvals, permits and licenses that may be required from time to time to continue or extend its rights to extract, develop, produce and export oil and gas in the manner contemplated in the Contract.
 6. The Company agrees to furnish to the Contractor upon its request such evidence of the authorizations, licenses, approvals, actions and/or registrations referred to in the contract.

Guarantees

1. Contemporaneously with the execution of this Contract, the Contractor shall provide to the Company an executed guarantee in the form set out in contract.
2. Contemporaneously with the execution of this Contract, the Company shall provide the Contractor an executed guarantee in the form set out in the contract.

Reimbursable Expenses

1. The Company shall reimburse the Contractor for expenses incurred by the Contractor that should be borne by the Company. Such expenses include:
 - (a) food and lodging or individual meals for any Company Personnel in excess of ten; and
 - (b) all items and activities specified in the agreement to be furnished by the Contractor to the Company's account.

Liens

1. The Company shall have no right, power or authority to create, incur, or permit to be imposed upon the FPSO any liens whatsoever.
2. The Company acknowledges that, pursuant to the Contractor's financing arrangements, the Contractor may mortgage the FPSO under the contract for the benefit of its financier(s) provided that any mortgagee of the FPSO agrees to be subject to the Company's rights under the Contract so long as Company has not committed a material breach of the Contract.

3. The Contractor shall promptly comply with the terms and conditions of all agreements, mortgages, etc., giving rise to valid liens against the FPSO or any of its equipment, inventory, supplies, stores, etc., and in no event shall it permit the existence of any such liens and/or its compliance with the conditions thereof to interfere with or in any way delay the performance of its obligations under this Contract.

Health, Safety and Environmental Obligations

1. The Contractor represents that it is fully capable of performing the services in compliance with and shall in all material respects comply with the provisions of relevant federal, state, and local health, safety and environmental laws and regulations in the performance of the services.
2. The Contractor is responsible for providing and maintaining at the FPSO a safe and healthy work environment for the Contractor Group Personnel, Company Group Personnel and all third parties. Such persons shall comply with the Contractor's directions relating to health and safety matters.
3. The Company is responsible for coordinating the work of the Company's personnel group with the Contractor and advising such persons that they must comply with the Contractor's safety program while at the FPSO.
4. The Master shall be in charge of and responsible for the regulation of the landing and take-off of helicopters and the handling of launches and small boats employed by the Company whilst alongside the FPSO and may defer offloading if he, acting reasonably, deems it necessary for safety of life or property.
5. The Contractor shall not cause, permit, or tolerate hazardous, unsafe, unhealthy or environmentally unsound conditions or activities over which it has control to be conducted at the Site. If The Contractor becomes aware of any hazardous, unsafe, unhealthy or environmentally unsound conditions, the Contractor shall immediately notify the Company and take whatever steps necessary to eliminate, terminate, abate, or rectify the condition.
6. The Company shall have the right to inspect the Contractor's operations and the Site periodically for the purpose of monitoring compliance by the Contractor with the safety provisions of this Contract, but such inspections or absence of same shall be without prejudice to the Contractor's responsibility for maintaining a healthy and safe work environment.
7. If the Company is made aware of a failure of the Contractor to comply with the safety provisions of this Contract, which failure does not create an imminently hazardous condition, the Company shall have the right to direct the Contractor to abate such condition as soon as possible. If the Contractor fails to abate such condition within a reasonable period of time, then the Company shall have the right to suspend the services of the Contractor and such Services will not be restarted until the Contractor has corrected the situation.

8. The Contractor shall notify Company of incidents or near miss incidents involving personal injury, fires, explosions, spills of hydrocarbons and hazardous chemicals and loss of control that occur at the Site or in connection with any services being performed under the contract and shall within twenty-four hours after any such occurrence, provide the Company with a written accident report. The Contractor will also provide the Company with copies of all reports or other documents required to be provided to the Company pursuant to law and/or requirement of regulatory or governmental authorities in connection with such accidents.
9. The use, possession, distribution or sale of alcohol, illegal drugs or drug-related paraphernalia, firearms, explosives, weapons, or other dangerous substances or articles is not permitted at the Site. Entry onto the Site is subject to the right of the Company and its authorized representatives to search at any time the person, automobile and other property of individuals while entering, on, or departing the Site. The Company may, if it has reasonable cause to believe that a Contractor's employee is under the influence of alcohol or drugs, require that such employee to be tested for use under the Contractor's own alcohol and drug policy, or require that such employee be removed from the Site and denied further access.
10. Materials and equipment shipped to the Site by the Contractor will be inspected, prepared, marked and documented in accordance with all applicable regulatory standards and specifications in contracts and orders.
11. The Contractor shall protect, defend, indemnify and hold Company harmless from and against all expenses, damages, liabilities, claims, fines and penalties, including legal fees and other costs arising out of the failure of the Contractor to comply with any provision of health, safety and environment.

Taxes

1. The Company shall deduct Withholding Tax ("WHT") from invoices at the time of payment to the extent that the Government or other authorities in the Federal Republic of Nigeria ("Nigeria") require such deductions. Company shall remit the same to the Nigerian Government and provide official tax receipts to acknowledge such remittance as soon as they are received from the relevant authorities. In the event that the relevant authorities delay or refuse to provide official tax receipts, Company shall promptly provide the Contractor with formal confirmation of the amounts so withheld and paid.
2. The parties recognize that the Contractor may execute some of the Services in the Contract outside Nigeria. Where in such and any other circumstances, the Contractor claims to be entitled to be exempted from any statutory deductions, the Contractor shall provide exemption certificate or confirmation letter to the Company. Thereafter the Company shall cease to deduct WHT from the Contractor invoices that cover Services carried on outside Nigeria.
3. Value Added Tax ("VAT") will be chargeable in the currency of invoice and payment shall be made in accordance with the Nigerian Value Added Tax Decree.

4. To be able to charge VAT, the Contractor must:
 - a. provide the original VAT registration certificate to the Company for inspection; and
 - b. quote the VAT registration number on all invoices.
5. The Contractor shall be responsible for:
 - i the payment of all taxes, duties, levies, charges and contributions (and any interest or penalties thereon) for which the Contractor is liable as imposed by any appropriate government authority whether of Nigeria or elsewhere, whether or not they are calculated by reference to the wages, salaries, benefits or expenses and other remuneration paid directly or indirectly to persons engaged or employed by the Contractor and
 - ii the payment of all taxes, duties, levies, charges and contributions (and any interest or penalties thereon) including but not limited to income, profits, corporation taxes and taxes on capital gains, turnover and value added taxes for which the Contractor is liable, whether arising in Nigeria, its territorial waters, its continental shelf or elsewhere, arising from this Contract; and
 - iii compliance with all statutory obligations to make deductions on account of and remit the required amounts to any appropriate government authority whether of Nigeria or elsewhere, including, but not limited to income tax, PAYE, national insurance, employee taxes, charges, social security costs, levies and contributions whether or not they are measured by the wages, salaries or other remuneration or benefits paid to persons employed by the Contractor, or persons providing services in connection with the Contract to the Contractor, and the imposition of a similar obligation upon any Sub-The Contractor or any other person employed by them or providing services to them in connection with the Contract; and
 - iv ensuring that any subcontractor or any other person employed by them or providing services on or in connection with the Contract shall comply with this Clause.
 - v. The Company shall be responsible for payment of import/export taxes, clearances and duties on the FPSO and mooring system together with all equipment and spare parts on board the FPSO on first entry into Nigeria.
 - vi. The Contractor shall supply to the Company all tax information in connection with activities under the Contract, as is necessary to enable the Company to comply with the lawful demands for such information by any appropriate government authority whether of Nigeria or elsewhere.
 - vii. The Contractor shall save, indemnify, defend and hold the Company harmless against all levies, charges, contributions and taxes of the type referred to in this Clause and any interest or penalty thereon which may be assessed by any appropriate government authority whether of Nigeria or elsewhere, on costs incurred in connection therewith.

viii. If the Company receives a notice requiring it to pay any levies, charges, contributions or taxes of the types referred to in this Article, the Company shall forthwith notify the Contractor who shall work with the Company to make all reasonable endeavours to make any valid appeal against such payment. In the event that the Company is ultimately required to make such payment, the Company may recover from the Contractor any such sums and all reasonable costs incurred in connection therewith and the Contractor shall within fourteen calendar days of receiving written notice from the Company pay to the Company any such sum or the Company shall be entitled to deduct such sums from any monies due, or which may become due to the Contractor.

Conflicts of Interest

Neither the Contractor nor any of its subcontractors shall pay any fee, commission, rebate or other thing of value to, or for the benefit of any employee of the Company or any of its Affiliates, nor will the Contractor do business with any company knowing that the results thereof might benefit an employee of the Company, or any of its Affiliates.

Party Representatives

1. The Contractor shall nominate by written notice to the Company one of its suitably qualified Personnel as the Contractor's Representative who shall have full authority to act on the Contractor's behalf in connection with the Contract. The Contractor shall notify the Company of the name of the person so appointed and of his normal place of work. The Contractor may from time to time by further notice to the Company request to remove any person from his appointment as the Contractor's Representative and appoint a fresh person in his place. The Company has the right to approve or reject any replacement of the Contractor's Representative.
2. The Contractor shall nominate by written notice to the Company one of its suitably qualified Personnel as Master for the purpose of managing the day-to-day performance of the Contractor's obligations under this Contract. Such person shall have full authority to resolve all day-to-day matters which arise between the Company and the Contractor.
3. The Company shall nominate by written notice to the Contractor one of its Personnel as the Company's Representative who shall have full authority to act on the Company's behalf in connection with the Contract. Such person shall have full authority to resolve all day-to-day matters which arise between Company and the Contractor. The Company's Representative shall at all times have access to the Site.
4. The Company shall nominate by written notice one of its Personnel as the Company's Field Superintendent for the purpose of overseeing the operational matters offshore and all related facilities including the FPSO. The Company Field

Superintendent is authorized to issue instructions to the Master subject to terms of the contract.

Termination

1. The Company may, by not less than three month's written notice to the Contractor, terminate the Contract without cause at any time after the Contract Date and before the expiry of the *contract period*. Any such termination without cause shall be subject to an *early termination payment*.
2. The Company shall have the right to terminate this Contract with cause in the following circumstances:
 - i. If *the commencement date* has not occurred by a date fourteen days after *the target commencement date* and such failure is not due to *the Contractor's permitted excuse/delay* and the Contractor fails within such 14-day period to demonstrate a reasonable likelihood of the *commencement date* occurring within one hundred and twenty days of *the target commencement date*; or
 - ii. The Contractor is in breach of any other of its material obligations under the Contract and has failed to take reasonable steps to remedy such breach within a period of fourteen days after a written notice specifying such breach has been given to the Contractor by the Company; or
 - iii. an order is made or a resolution is passed for the winding up or insolvency of the Contractor, or The Contractor makes an assignment for benefit of creditors generally, or a receiver or administrator is appointed to its assets; or
 - iv. A mortgagee of the FPSO exercises its rights under a mortgage of the FPSO in a manner which adversely affects the Contractor's performance of its services.
3. Upon the occurrence of any of the foregoing events, the Company may terminate this Contract with immediate effect by giving the Contractor written notice. Except for the Company's accrued obligations under the Contract incurred up to the termination date, including but not limited to *Day Rates* payable up to the termination date which have not yet been paid and which are not in dispute (whether or not invoiced) and as otherwise expressly provided, the Company shall be relieved of all further obligations under the contract.
4. The Company's right to terminate for cause hereunder shall be in addition to any rights conferred upon the Company by virtue of any other provision of this Contract or at law.
5. The Contractor shall have the right to terminate the contract in the following circumstances:
 - (i) if the Company shall for any reason fail to make payment due under the contract;
 - (ii) The Company is in breach of any other of its material obligations under the Contract and has failed to take reasonable steps to remedy such breach within a period of sixty days after written notice specifying such breach has been given by the Contractor to the Company, or

- (iii) an order is made or a resolution is passed for the winding up or insolvency of the Company, or the Company makes an assignment for benefit of creditors generally, or a receiver or administrator is appointed to its assets.
- 6. Upon the occurrence of any of the foregoing events, the Contractor may at its option terminate this Contract with immediate effect by written notice to the Company. Upon receipt of such notice, the Company shall allow the Contractor to take redelivery of the FPSO as soon as possible.
- 7. If the Contract should be terminated by the Contractor in accordance with the provisions of the contract, the Company shall remain liable to the Contractor for all *day rates* owing or earned and unpaid up to the termination date.

Maintenance, Reduced Performance and Shut Down

1. The Contractor shall maintain and repair the FPSO throughout the contract period and shall at all times maintain and preserve the FPSO in good condition, working order and repair, so that the FPSO shall be, insofar as due diligence can make it so, tight, staunch, strong and well and sufficiently tackled, apparelled, furnished, equipped and in every respect seaworthy and so that the FPSO, insofar as due diligence can make it so, is in good operating condition and conforms to the FPSO Description and Specifications set out in the contract.
2. The Contractor shall use reasonable endeavours to perform all maintenance and repairs of the FPSO without causing reduced performance. The Contractor shall be allowed a Monthly Maintenance Allowance of twenty-four hours per month to perform maintenance and/or repairs.
3. The FPSO will be regarded as ready to resume Services when it is safely moored at the FPSO Site and the oil import transfer risers, gas export risers and control umbilicals are hooked up to the FPSO and integrity-tested.

Options to Lay-up and to Relocate FPSO

1. The Company shall have the option of laying up the FPSO at an agreed safe port or place for all or any part of the Contract Period, in which case the Lay Up *day rate* will be paid. The Company shall reimburse the Contractor for any net extra expenses incurred by it as a result of such lay-up, or in breaking lay-up upon resumption of services.
2. If the Company, having exercised the lay-up option, wishes the FPSO again to be put into service, the Contractor will, upon receipt of written notice from the Company to such effect, immediately take steps to restore the FPSO to service as promptly as reasonably possible. The lay-up option granted to the Company may be exercised one or more times during the contract period.
3. The Company shall have the right to relocate the FPSO at any time during the contract period to another location offshore Nigeria provided that the Contractor shall be fully compensated for all costs, obligations and liabilities associated with such relocation and any modification of the FPSO as may be required as well as

any increased costs, obligations and liabilities incurred in connection with the performance of its obligations in the new location.

Requisition

1. If the FPSO is requisitioned for use or hire by any government or governmental authority, then so long as the contract period is continuing, the Lay Up Day Rate will be payable throughout the period of such requisition and any hire or other compensation payable in respect of such requisition will belong to the Company.
2. If the FPSO is requisitioned for title, seized, expropriated, confiscated, or nationalized by any government or governmental authority (including that of the country of the FPSO's flag and registry, or the country having jurisdiction over the FPSO Site, and the FPSO is prevented from providing services to the Company as a result Force Majeure will apply and, if such situation continues for more than three months, the Company may terminate the contract at any time by giving written notice to the Contractor.

Actual or Constructive Total Loss

1. In the event of actual or constructive total loss of the FPSO occurring at any time during the contract period, this Contract shall be deemed terminated as of the date of said loss. If the time of such loss is uncertain, then until the date the FPSO was last heard from, and the FPSO shall be deemed to have been redelivered to the Contractor as of such date.
2. Upon the termination of the contract pursuant to loss of the FPSO, the Company and the Contractor shall be relieved of all further obligations under the contract except that the Contractor shall remain liable for any wreck removal including removal of FPSO and mooring chains.

Variations

1. Without limitation to the foregoing and for illustrative purposes only, the following would be regarded as a variation:
 - i. instructions by the Company which would result in a change to the specification of the FPSO;
 - ii. inaccurate information provided by the Company which results in The Contractor incurring additional costs.
2. Without limitation to the foregoing and for illustrative purposes only, any activities undertaken and/or resources employed by the Contractor to the extent necessitated, in whole or in part, by the negligence and/or the breach by the Contractor of any of its obligations under this contract would not be regarded as a variation in the services.
3. Company may at its sole discretion at any time, and from time to time, request a variation to the Services and the Contractor shall implement the said variation in accordance with the provisions of the contract. Such variation shall not in any way

be construed as invalidating the contract or any ancillary document but shall form part of the services.

4. If the Contractor receives any document, request or instruction from the Company, or an event occurs, either of which the Contractor considers would constitute a variation to the Services, it shall as soon as is reasonably practical advise the Company as to the circumstances or occurrence which it considers to constitute a variation.
5. Compensation for any Variation Order Shall be made in accordance with any of the following, as selected by the Company:
 - i by payment of an agreed lump sum amount; and/ or
 - ii by such change to the day rates (i) as the parties shall agree, or (ii) in accordance with the Roll-up Rate.

Assignment

- i. Neither Company nor the Contractor may assign the Contract or the performance of their respective obligations under the Contract to any other party except with the prior written consent of the other Party, which shall not be unreasonably withheld or delayed.
- ii. The Contractor may assign its rights to receive Day Rates and compensation under the contract to its financing bank(s) by way of security for borrowings, and the Company will upon request of the Contractor promptly execute such acknowledgement of assignment which shall be in a form reasonably acceptable to the Company. Any such assignment shall provide that the assignee(s) agrees to be subject to Company's rights under the contract provided that the Contractor shall always remain responsible for the execution of the Services as defined herein.
- iii. Notwithstanding the general provision against assignment, the Company and any co-venturer shall be entitled to assign the contract or any rights or any obligations under it to an Affiliate of the Company or Co-venturer and to any financial institution by way of security for borrowings. In the event of such assignment by the Company or co-venturer to a financial institution, the Contractor shall upon request of Company or co-venturer promptly execute an acknowledgment of assignment. The Contractor undertakes to co-operate in goodwill with Company or co-venturer in agreeing to terms of any inter-creditor agreement reasonably required by any financial institution in support of security for borrowings.
- iv. In the event of assignment by the Company, the Company shall remain responsible for the performance of the contract. Unless and until the assignee is novated¹ into the Contract by novation agreement in a form approved by the Contractor, such approval not to be unreasonably withheld or delayed.

¹ Novation is the substitution of an old agreement with a new one. The new agreement extinguishes the rights and obligations in the old agreement. A novation arises when a new person assumes the obligation to pay what was incurred by the original party to the contract. A novation is different from a situation a

Redelivery of FPSO

- a. The Contractor shall be responsible for the demobilization of the FPSO, and shall carry out the necessary disconnection activities, including retrieval of the mooring system and disconnection from the oilfield in an efficient and timely manner.
- b. The Company shall have the option to require the Contractor to dispose of residual slops including slops left in cargo tanks and any other Company Group property left on board the FPSO on the demobilization date at the Company's cost.
- c. The Company shall pay the Demobilization Fee in respect of Services carried out during the demobilization period.
- d. If the FPSO becomes a total or constructive total loss, the Contractor will be responsible for the removal of its wreck if, and to the extent that, it is required to do so by the Company or by local laws or by local authorities or if the wreck is a hazard to navigation or to Company's operations at the FPSO Site.
- f. The Contractor shall be responsible for removing from the FPSO Site all garbage and debris resulting from the performance of the services prior to the demobilization of the FPSO.

Pollution Control

- a. The Contractor shall indemnify, defend and hold the Company Group harmless from any claim, costs, liability, loss or damage arising out of or resulting from pollution damage and cleanup in respect of the discharge, spill or leak of any pollutants from the FPSO.

Force Majeure

1. Whether arising before or after the commencement date neither Party shall be liable for loss or damage arising out of any delay, omission or failure of performance caused by circumstances beyond its control, including, but not limited to acts of God, acts of public enemies, wars, national emergency, invasions, pirates or assailing thieves, insurrection, riots, strikes, picketing, boycotts, arrests or restraint of princes, rulers of people, requisition of the FPSO, maritime or aviation disasters, usual marine perils, named tropical storms or interference by any governmental agency or official, interference by laws or regulations of any government or subdivisions thereof, and in particular failure to issue any required authorizations, permits, clearances, licenses and permissions or any other cause, whether of the kind herein enumerated, or otherwise, not within the reasonable

guarantor agrees to pay for a creditor if the debtor cannot pay. While in the case of a novation the original party is totally released from his obligation, in a guarantee, the debtor is not totally released for he may be liable to the guarantor even after the guarantor has paid the creditor. A novation may also take place when the original parties continued their obligations to each other, but the old contract is substituted with a new one.

control of the Party claiming suspensions, and which, by the exercise of due diligence, such Party is unable to prevent or overcome.

2. Any such delay, omission, or failure of performance due to such causes shall not be deemed a breach of or a default in the performance of the contract provided, however, such causes or contingencies affecting the performance of the contract by a party shall not relieve the party of liability in the event of its failure to use due diligence to remedy the situation and remove the cause in an adequate manner and with all reasonable dispatch, nor shall such causes or contingencies affecting the performance of the contract relieve a party of liability unless it gives notice and full particulars of the same in writing or by facsimile to the other party as soon as reasonably possible after the occurrence relied on, and like notice shall be given upon termination of such force majeure conditions.
3. In the event a force majeure continues for an aggregate period exceeding sixty days, the Company shall have the right to terminate the Contract. In such event, the Company shall have no liability to the Contractor beyond payment of Force Majeure day rates for the period to the date of termination and demobilization.

Insurance

1. The Contractor shall at the Contractor's expense maintain in force insurances with first class underwriters on terms and conditions and with policy limits that are set agreed by the parties. The Contractor's insurance shall include coverage of the following risks:
 - i Builders All Risk insurance or an equivalent insurance coverage;
 - ii Hull and Machinery (including collision liability) and/or increased value insurance, for no less than the replacement value of the FPSO, including removal of wreck cover;
 - iii Protection and Indemnity Insurance comprising crew cargo and personal injury and including the Contractor's legal and contractual liability to personnel and oil pollution risk;
 - iv Comprehensive General Liability insurance covering premises, operations and legal and contractual liability assumed under contract for third party bodily injury and/or property damage.
 - v Workmen's Compensation Insurance (or any local equivalent cover) in compliance with statutory requirements and employer's liability insurance
 - vi War risks cover for the FPSO.

Arbitration

In the event of any disputes or difficulties arising out of or in relation to this Contract, including its validity or existence, the parties shall endeavour to resolve the same through good faith negotiations. If the Parties fail to reach a resolution, the matter shall be referred to arbitration.

Demobilization

At the end of the Contract Period, the Contractor shall demobilize the FPSO. Demobilization shall include disconnection of all risers and umbilicals, disconnection of moorings and recovery of mooring components. Demobilization shall be completed within thirty days.

Crude Oil Term Sale Contract

General terms and conditions for the sale of crude oil and oil products

Title and risk

1.1 Transfer of ownership

1. Regardless of the method of loading, the ownership of the Product is only transferred to the Buyer after a Surety within the meaning of this contract has been provided, or the Purchase Price has been fixed in accordance with the Sales Contract and has been paid in full to the Seller.
2. Prior to the transfer of ownership, the Buyer may not transfer the right of ownership or otherwise encumber of the Product, mix the Product with other products or use it as surety.

1.2 Transfer of risk

1. In case the loading takes place by means of a Vessel or Tank Barge, the risk in the Product delivered under the Sales Contract shall pass to the Buyer as the Product passes the permanent hose connection of the Vessel or Tank Barge at the Storage Facility.
2. In case the loading takes place by means of a tank lorry or train, the risk in the Product delivered under the Sales Contract shall pass to the Buyer as the product passes:
 - (a) the inlet manifold of the tank.
 - (b) the outlet flange of the Storage Facility's flexible hose, in the case of gravity fed top loading.
3. In case the loading takes place by means of a pipeline, the risk in the Product delivered under the Sales Contract shall pass to the Buyer as the Product passes the inlet flange of the Buyer's receiving tank.
4. In case the loading takes place by means of a Tank Transfer, the risk in the Product delivered under the Sales Contract shall pass to the Buyer as the Product passes the inlet flange of the Buyer's receiving tank.
5. In case the loading takes place by means of a Stock Transfer, the risk in the Product delivered under the Sales Contract shall pass to the Buyer at such time and Day and in such Tank(s) as shall either be specified in the Sales Contract or as agreed

between Parties prior to such transfer being effected and, where applicable, confirmed by the Storage Facility Operator of such Tank(s).

6. If the Buyer does not load the Product on the scheduled date/dates or if the inspection is not done on the scheduled date by fault of the Buyer, the risk will still be transferred to the Buyer on the scheduled date/dates.

Quality and quantity

Quality

1. The Seller guarantees that the Product meets the Specifications as agreed in the Sales Contract and complies with the generally accepted standards for the Product. Special characteristics of the Product must be explicitly set out in the Sales Contract.
2. The Buyer is solely responsible for the use of the Product and, subject to the Specifications and any other express designation in the Sales Contract, the Seller does not provide any guarantees concerning the use of the Product by the Buyer.

2.2 Quantity

1. The Seller delivers the Product quantity that is determined in the Sales Contract.
2. In case of delivery by tank lorry, the quantity of the product is determined with reference to the measurements of the meter device of the Storage Facility.
3. The quantity loaded is determined by means of a flow meter, tank gaugings or weighing scale of the Storage Facility, except in cases of manifest incorrectness in which case the parties estimate the quantity delivered in good faith and by mutual consultation.

Inspection

1. Parties shall ensure that the Inspector checks the quantity of the product to be delivered and takes three samples which are sealed and kept by the Inspector for at least three months. If one of the parties requests so from the Inspector thereof in writing before the expiration of three months, the other Party will in no way prevent the Inspector to keep the samples further for the time specified in the request and keep these samples against payment by the requesting Party of the price charged by the Inspector.
2. Complaints, if any, on account of the Inspector's checking the provisions in the first paragraph of this article shall be communicated to the Seller by the Buyer as soon as possible, but ultimately within thirty Days from delivery, in case of default whereof the Buyer shall be deemed to have accepted the Product delivered by the Seller as in conformity with the agreed Specifications and with the generally accepted standards for the Product.
3. Parties shall ensure that the findings of the Inspector are recorded in a report submitted to the Seller and Buyer by the Inspector. Those findings are final and binding for the Seller and the Buyer, except in cases of fraud or manifest error.

Purchase Price, Surety, Advance and Payment

4.1 Purchase Price

1. Unless a fixed price mechanism is agreed in the Sales Contract, the Purchase Price is determined on the basis of daily international quotations. The method of calculation is specified in the Sales Contract. The Purchase Price does not include taxes, fees and/or levies associated with or connected to the Sales Contract, which may be charged separately.
2. The cost for loading the Products and for the addition of any additives and coloring agents are for account of the Buyer.
3. All government-imposed measures that increase or decrease the Purchase Price, are passed to the Buyer and form part of the Purchase Price.
4. Seller shall send the invoice by electronic mail or by an original hard copy sent by post for the Products concerned to the Buyer within seven (7) Working Days after bill of lading date and in case of delivery by Tank Barge seven Working Days after the receipt of the applicable delivery documents.

Surety

1. The Buyer shall provide the Seller the Surety in relation to the Sales Contract.
2. The amount covered by the Surety should at least be at a level of 120 % of the Provisional Price as calculated on that moment in time.
3. The Seller shall always have the right to ask an increase of the amount covered by the Surety as from the moment the Provisional Price reaches 95 % of the amount of the Surety.
4. This increase of the amount of the Surety will be such that the amount of the Surety becomes 120 % of the newly calculated Provisional Price.
5. The size of the Surety is intended to cover the Purchase Price, interest on arrears and other payments, which the Buyer must undertake, to ensure the liability of the Buyer for taxes, fines, convictions and special tax demands. The Seller shall apply the Surety in good faith without judicial intervention and notice of default.
6. The Seller is not obliged to deliver as long as the Buyer did not or not properly constitute the Surety and may suspend delivery if the Buyer fails to comply with the request for an increase of the Surety.
7. If several successive Sales Contracts between the same Parties are concluded, one Surety is issued as surety for the various successive Sales Contracts, which nevertheless does not appear to also restrict the size of the Surety but only to prevent that each time a new Surety must be constituted.

Advance

1. If in exceptional cases the Buyer will not be able to provide a Surety, the Buyer may ask a Seller to agree to advances on the Purchase Price. In that event the account of the Seller should be credited by the Buyer with an advance on the Purchase Price at the latest at noon of the Working Day preceding the delivery or on any other moment stipulated in the Sales Contract. At all times, the Seller has the right to

claim an increase of the advance if the circumstances show that the Purchase Price will be higher than the previously used Provisional Price

2. The Seller is not obliged to deliver as long as the Seller has not received the advance and may suspend the delivery if the Buyer fails to comply with the request to increase the advance.

Payment

1. The Buyer pays the Purchase Price by bank transfer within seven Working Days after the invoice date to the bank account as indicated by the Seller on the invoice, unless the Sales Contract expressly provides a different payment term.
 - a) If a Surety is set, the Buyer shall pay the Purchase Price by bank transfer within the payment term. When the payment is not made in time, the Seller has the right to, immediately and upon request, call the Surety set by the Buyer, for the amount of the Purchase Price and any other amounts due to Seller covered by the Surety.
 - b) Any advance paid by the Buyer will be deducted from the Purchase Price. If the advance is less than the Purchase Price, the Buyer shall pay the difference between the advance and the Purchase Price to the Seller. At all times, the Seller shall have the right to (i) suspend the loading of the remaining Product which is not covered by the paid advance and (ii) limit the deliveries to the remaining of the paid advance. In the event the Buyer has paid an advance which is higher than the Purchase Price, the Seller shall repay the difference between the advance and the Purchase Price to the Buyer.
2. If the Buyer does not agree with any information contained on an invoice, it must protest the invoice within seven Working Days after the invoice date. If no complaint is made within that period, the Buyer is irrefutably deemed to have accepted it except in case of a manifest error of the Seller. Payment of the invoice is indisputably assimilated to the acceptance thereof.
3. Parties pledge to accept and pay the gross remuneration of the Inspector shared equally (50/50) according to their own agreed tariff with the Inspector for such service, and ensure that the Inspector invoices each amount owed directly and transparently to each Party.
4. Payment shall be made upon production of the Inspector report and the Seller's invoice and any other required document. Should a full set of clean original bills of lading be required by the Buyer and found unavailable at the time of payment, a Seller's letter of indemnity in a form acceptable to the Buyer shall be used in lieu of such missing documents to secure Buyer's payment.
5. Should the price be based on a formula, it shall be calculated according to the terms and conditions of the Sales Contract within three (3) Working Days after the end of the pricing period. If the price is agreed to be in Euros, it shall be converted in Euro as follows: each daily price as calculated according to the price formula of the Sales Contract shall be converted in Euro, using the same day ECB fixing. In case a

quoted Day is a bank holiday in Europe, then the previous ECB fixing shall be used for that Day.

6. Costs for money transfer (swift or other costs) will be split equally between the Parties, and each Party will bear the cost of its own bank.
7. Payment is always net, without discount, deduction, offset or counterclaim of any amount.
8. In case of late payment the Buyer shall automatically and without notice provide payment of interest on arrears amounting to the interest rate determined in accordance with legal trade interest as defined in the Dutch civil code concerning combating late payment in commercial transactions, increased by 1% per month. In addition, the Buyer shall automatically and without notice be liable for the compensation of any judicial or extrajudicial costs, incurred by Seller in order to recover the payment of the Purchase Price, including the fees for its lawyers, with a fixed minimum sum of money.

Transportation, Demurrage and Overtime, Nominations and Insurance

Transportation

1. The Buyer shall have the sole responsibility for procuring the means of transportation of the Product. Buyer's means of transportation shall comply with all applicable governmental, local and port authority regulations or any other regulations of whatever nature in force at the Storage Facility.

Demurrage and overtime – nominations

1. The Seller will not be liable for any Demurrage. Any overtime will not be paid by the Seller and will, if need be, be invoiced by the Seller to the Buyer.
2. The Buyer is responsible for the nomination of a Vessel or a Tank Barge that does not exceed the valid restrictions for the specific port, terminal and berthing place (these restrictions are available upon request at the Storage Facility) and for its acceptance by the port and/or terminal authorities. The Vessel or Tank Barge shall at all times be subject to acceptance by the Storage Facility Operator.
3. The Buyer is responsible for the nomination of the vehicles (tank lorries, rail tanker) intended to load the Products and their acceptance by the Storage Facility Operator. The Buyer undertakes to comply with all access and safety rules of the Storage Facility, imposed by the rules of the Storage Facility.
4. Each nomination must be sent by e-mail to the Seller with a copy to the Storage Facility Operator. The minimum notice for Vessels is three (3) Working Days and for Tank Barge or "pump-overs" two Working Days in advance.

Insurance

1. The Buyer concludes a adequate insurance policy from an insurer with an excellent reputation against liability arising from the Sales Contract as well as its non-contractual liability relating to the Sales Contract.

Documents

1. Seller undertakes, to the extent it is allowed within the permission granted to it by the Board of Customs and Excise, to issue the documents customary in the trade.

Taxes, levy and dues

1. The Buyer is responsible for all government charges, including but not limited to taxes, levies, dues, which may be charged at any stage after the passing of the risk. If these are charged to the Seller, these are indicated separately on the invoice. The Seller shall provide all the necessary documentation.
2. The Buyer is liable to the Seller for the taxes and charges, fines, interest and additional costs resulting from violations or irregularities during or in connection with the transportation of the Product, incorrect or incomplete signatures and late or not received back in proper form by the Storage Facility Operator.

Disputes

1. The Buyer checks the Product for conformity with regard to the Specifications. Every complaint in this regard should be reported in writing within thirty (30) Days after completion of the loading, failing which the Buyer is irrefutably deemed to have accepted the Product as delivered.
2. The Seller is only responsible for hidden defects when the Buyer reports this within thirty Days after completion of the loading, unless it can be shown that the Seller was aware of these defects at the time of the delivery.
3. Complaints concerning visible or hidden defects may in any event only be expressed until the Product is mixed with other petroleum products. In the event of timely complaint, the Buyer refrains itself of such mixing, so that evidence can be provided.
4. Complaints concerning the quantity and quality of the Product are resolved exclusively on the basis of the findings by the Inspector.
5. A dispute does not allow the Buyer to suspend carrying out its payment obligation.

Liability

Liability of the Seller

1. The Seller is not liable if the Buyer has not complied with the terms of the contract.
2. In case of default by the Seller, the Seller has the right to choose between (i) the delivery of the missing quantity or the replacement in good faith of the quantity of the defective Product within a reasonable time, unless this has a material negative effect for the Buyer, or (ii) the payment of damages to a maximum value of the portion of the Purchase Price corresponding to the missing or defective portion of the Product.
3. In addition to the foregoing, in respect of any claims relating to the Seller's failure to supply the agreed quantity or with respect to any deficiency of quantity or variation in quality, the Seller shall in no circumstances be liable for more than the

positive difference between the market price and the agreed selling price of the Product for the quantity not taken for delivery under the Sale Contract.

Liability of the Buyer

1. Notwithstanding any other grounds or cases of liability, the Buyer is responsible for all damage caused by itself, any third parties assigned by the Buyer and their respective staff to the movable and immovable property of the Seller and the Storage Facility Operator.
2. Buyer will indemnify Seller against any liability, costs, taxes, fines, penalties, interests, levies, imposts, charges and duties, resulting from using or non-clearance of customs or excise documents or the failure to give any required notice timely.
3. Where the Buyer fails to take delivery of any of the Product under the terms of the Sales Contract, and such failure is not excused through any other provision of the Sales Contract, the Seller shall, in addition to any other legal remedies it may have, be entitled to sell the Product comprised in such delivery for the Buyer's account, in a public or private sale after issuing seven Days notice to the Buyer and the price so obtained shall be deemed conclusively to be the best price that Seller could obtain.
4. The Buyer shall reimburse the Seller for any positive difference between the price(s) stated in the Sales Contract and the price(s) obtained through public or private sale for the quantity of the Product not taken for delivery by the Buyer, together with all expenses incurred by the Seller through the Buyer's failure to take delivery of any of the Product.
5. The Buyer agrees to indemnify and hold the Seller and its Affiliates harmless in respect of any liability, loss, damage or expense of whatsoever nature that the Seller may sustain by reason of a third party bringing a claim against the Seller for personal injury and/or death and/or loss caused by the Product (including, but not limited to, the handling of the Product) following the passing of risk of the Product.

Liability of the Buyer and the Seller

1. No Party shall be liable to the other Party under or in connection with the Sales Contract and these General Terms & Conditions for the other Party's (i) loss of actual or anticipated profit; (ii) losses caused by business interruption; (iii) loss of goodwill or reputation; and (iv) or any indirect, special or consequential cost, expense, loss or damage even if such cost, expense, loss or damage was reasonably foreseeable or might reasonably have been contemplated by the Parties and whether arising from breach of contract, tort, negligence, breach of statutory duty or otherwise.
2. The Buyer and the Seller shall take all reasonable measures to mitigate damages.

Health, safety and environment

The Seller represents and warrants that it respects the requirements and obligations of law on health, safety and the environment.

Trade, control and boycott

1. Neither Party shall be obliged to perform any obligation otherwise required by the Sale Contract forming part thereof, including but not limited to an obligation to (a) perform, deliver, accept, sell, purchase, pay or receive monies to, from, or through a person or entity, or (b) engage in other act(s)) if this would be in violation of, inconsistent with, or expose such Party to punitive measures under any applicable laws, regulations, decrees, ordinances, orders, demands, requests, rules or requirements relating to international boycotts or embargoes, trade sanctions, foreign trade controls, export controls, non-proliferation, anti-terrorism and similar laws applicable to such Party.
2. Where any performance by a Party would be in violation of, inconsistent with, or expose such Party to punitive measures under Trade Restrictions, such party (the affected party) shall, as soon as reasonably practicable and at the latest two weeks after publication of the relevant rule, give written notice to the other Party of its inability to perform, with reference to the relevant rule, the obligations affected by the relevant rule and the scope and the impact of the effect.
3. Once such notice has been given, Parties shall convene within seven Working Days in order to discuss the matter which gave rise to the notice and they shall discuss in good faith whether the notice has been sent with cause or without cause and which alternatives have the same economic effect as performance of the contract while in conformity with Trade Restrictions.
4. If no alternatives for performance of the Sales Contract are available, the Affected Party shall be entitled:
 - (a) to immediately suspend the affected obligation until such time as the Affected Party may lawfully discharge such obligation; provided that the Affected Party shall, where this is not contrary to the relevant Trade Restrictions in question, use its reasonable efforts to limit the effects of the rule on its obligations;
 - (b) where the inability to discharge the obligation continues (or is reasonably expected to continue) until the end of the contractual time for discharge thereof, to a full release from the affected obligation, provided that where the relevant obligation relates to payment for goods which have already been delivered, the affected payment obligation shall remain suspended, and no interest shall accrue on such outstanding payment amount, until such time as the Affected Party may lawfully resume payment;
 - (c) to terminate the Sales Contract forming part thereof, forthwith upon written notice to the other Party at any time; and/or
 - (d) where the obligation affected is acceptance of the Vessel, to require the nominating Party to nominate an alternative Vessel; in each case without any liability whatsoever (including but not limited to any damages for breach of contracts, penalties, costs, fees and expenses) unless the Seller knew or should reasonably have known before entering into the Sales Contract that its

performance would be in violation of, inconsistent with, or expose such Party to punitive measures under Trade Restrictions.

Anti-corruption

1. The Parties each agree and undertake to the other that in connection with the Sales Contract, they will each respectively comply with all applicable laws, rules, regulations, decrees and/or official government orders relating to anti-bribery and anti-money laundering and that they shall each respectively take no action which would subject the other to fines or penalties under such laws, regulations, decrees or orders.
2. Buyer and Seller each represents, warrants and undertakes to the other that they shall not, directly or indirectly, pay, offer, give or promise to pay, accept or authorize the payment of, any monies or the transfer of any financial or other advantage or other things of value to:
 - (a) a government official or an officer or employee of a government or any department, agency or instrumentality of any government;
 - (b) an officer or employee of a public international organization;
 - (c) any person acting in an official capacity for or on behalf of any government or department, agency, or instrumentality of such government or of any public international organization;
 - (d) any political party or official thereof, or any candidate for political office;
 - (e) any director, officer, employee or agent/representative of an actual or prospective counterparty, supplier or customer of the Buyer or the Seller;
 - (f) any other person, individual or entity at the suggestion, request or direction or for the benefit of any of the above-described persons and entities, or
 - (g) engage in other acts or transactions; if such acts are in violation of or inconsistent with the anti-bribery or anti-money laundering legislation applicable to any of the Parties.
3. In particular, the Seller represents and warrants to the Buyer that it has not made any payments or given anything of value to officials, officers or employees of the government of the country in which the crude oil originated or any agency, department or instrumentality of such government in connection with the crude oil and/or oil products which are the subject of the Sales Contract, which would be inconsistent with or contravene any of the above-referenced legislation.
4. Buyer or Seller may terminate the Sales Contract, forthwith upon written notice to the other at any time, if the other is in breach of any of the above representations, warranties or undertakings. In the notice of termination, the terminating Party shall as much as reasonably possible refer to the relevant facts as well as to the representation, warranty or undertaking that the other is in breach of.

Force Majeure

1. Neither Party shall be liable for the non or delayed performance and/or the mal-performance of its obligations if and to the extent that, and as long as the

performance is, wholly or partly, temporarily or permanently, delayed, obstructed or prevented due to Force Majeure. Force Majeure shall, inter alia, mean a shortcoming, which cannot be attributed to the Parties, including in any case:

- (a) compliance with a requirement or request by any governmental agency, port, local or other authority or any other body or person, which or who convincingly appears or indicates to be such agency or authority which acts on behalf thereof;
 - (b) prevention, restriction or obstruction with respect to the storage, supply and/or removal.
2. Force Majeure shall be regulated in accordance with the Dutch civil code. Not considered Force Majeure shall be (i) non or delayed performance and/or the mal-performance of obligations by third parties who have undertaken these obligations vis-a-vis a party (ii) a situation in which there is an oil crisis or imminent oil crisis, but the normal supply and removal procedures still apply, (iii) a situation in which a government body has altered permit requirements and (iv) payment obligation of the Buyer.
 3. If a Party is prevented or delayed due to Force Majeure, it shall as soon as possible give written notice to that effect to the other Party, stating the particulars of such Force Majeure, the obligations thereby affected and the necessary proof, and shall thereupon be excused from performing such obligations for so long as the circumstances of Force Majeure may continue.
 4. A Party so affected by Force Majeure shall use every reasonable effort to minimize the effects of Force Majeure upon the performance of its obligations, shall inform the other Party immediately when the Force Majeure no longer occurs and shall promptly resume performance as soon as reasonably possible after removal of the circumstances of Force Majeure.
 5. If either Party has proved that due to or as a result of Force Majeure compliance with the obligations in the Sales Contract is not possible, the obligation of that Party shall be suspended during the period of Force Majeure, without prejudice to the right of the other Party – without giving further notice of default and without prior intervention by the court – to immediately cancel the Sales Contract wholly or partly or, as the case may be, to consider the Sales Contract terminated, if the period of Force Majeure is at least thirty Working Days and compliance with the Sales Contract may in fairness no longer be expected from this other Party.
 6. In case of a Supply Crisis, the Buyer shall make every effort in joint consultation with the Seller, to act to the best of its ability in the Seller's best interests.

Termination

1. In case of non or incomplete payment of any sum that the Buyer is due under the Sales Contract, including any interest or costs, and no proper Surety is in place, the Seller has the right to terminate the Sales Contract without prior judicial intervention or notice of default after:

- i. expiration of the (agreed) payment term and a consecutive remedy period of 8 Days; and
 - ii. a subsequent written termination notice by the Seller.
2. If the Buyer is the subject of a procedure of termination, bankruptcy, liquidation, judicial reorganization, suspension of payment or protest or if it becomes insolvent or if it transfers all or a substantial portion of its assets, or the Buyer fails to arrange the Surety (an irrevocable and unconditional bank guarantee), the Seller (subject to any contrary, compelling provision of Dutch law) has the right, with immediate effect and without compliance with any notice or payment of any fee, to unilaterally terminate the Sales Contract by registered letter, without any right of the Buyer for compensation/damages.
3. The Seller has the right, following a termination, to unilaterally, at its discretion and without notice, to consider any other agreements concluded with the Buyer as dissolved or the implementation thereof suspended. The Seller is not obliged to pay any compensation to the Buyer and/or any third party in the event of dissolution.
4. If the Buyer does not load the Product on the scheduled date or dates, due to any cause(s) that is attributable to the Buyer and without being excused by any provision of the Sales Contract, the Seller has the right to terminate the Sales Contract without prior judicial intervention or notice of default and without any right of the Buyer for compensation/damages. The Seller also has the right to keep the Product at the cost and expense of the Buyer.

Assignment

1. The Buyer may transfer, with the prior express written consent of the Seller, its rights under the Sales Contract only to an affiliated company. The Seller shall not withhold such consent unreasonably. The Buyer may not transfer its rights under the Sales Contract to a third party. In each case of transfer, the Buyer remains jointly and severally liable together with the transferee for all obligations under the Sales Contract, including these General Terms and Conditions for Sale.
2. If required by the Dutch Minister of Economic Affairs, the Seller has the right to transfer its rights under the Sales Contract to any private or public legal body that is charged with the tasks that the Seller currently performs.

Severability

1. If one or more of the articles of these General Terms and Conditions for Sale and/or the Sales Contract are or become invalid and/or are declared invalid or legally impossible and/or unenforceable, this does not have any effect on the validity of the other articles of the Sales Contracts.
2. In that case of paragraph 1 above, the Seller and the Buyer ensure that the article is replaced by an article that corresponds most closely to the intent and spirit of the article that is invalid, declared invalid or legally impossible or is unenforceable.

Applicable law and jurisdiction

1. All disputes which may arise in connection with the Sales Contract and these terms and conditions or in connection with further agreements, which might be the result thereof, shall be determined at the Seller's choice.
2. The General Terms and Conditions for Sale and each Sales Contract are governed by English law.
3. The application of the Vienna Convention of 11 April 1980 (on international purchase agreements concerning movable properties and the Convention of 14 June 1974 concerning limitation during international purchase of movable properties) shall be excluded.

Fiscal Incentives and Returns on Oil and Gas

Rational Foundations for Fiscal Incentives for Oil and Gas Companies and Returns on Oil and Gas

Because of the high risk and expense of oil and gas operations, particularly offshore oil and gas operations, also because of the importance of oil and gas to the Nigerian economy, the Nigerian government offers fiscal incentives in the form of tax and royalty rebate to oil companies to persuade them to invest in the sector. But for such incentives, some of the oil companies prospecting for and producing oil and gas offshore may not have embarked on their respective operations.

Returns on oil and gas to the Nigerian government accrue to the government on account of it being owner of oil and gas resources and on account of its investment in the oil and gas industry. The Nigerian government relies more than 80% for its wealth on returns from the oil and gas industry.

Instruments of fiscal incentives to oil and gas companies

Government policy of granting fiscal incentives to oil and gas companies is not only implemented through the law, but also through Memoranda of Understanding (MOU) that give fiscal incentives to oil and gas companies. In some cases, such policy also sounds through side letters.¹

Statutes

Most incentives granted by the Nigerian government to oil and gas companies are granted by passing laws that confer such incentives on the oil and gas companies. Incentives like investor tax credit, capital allowance, depreciation allowance, incentives for utilization of associated gas are usually conferred on oil and gas companies by statute.

Because of the importance attached to the Liquefied Natural Gas project at Brass, the Nigerian Government in 1989 passed a special law exempting the company from certain taxes, custom duties and other levies and the provisions of the Pre-Shipment

¹ See Yinka Omorogbe, *Oil and Gas Law in Nigeria*

Inspection of Imports Act. This was intended by the Government to provide Guarantees and Assurances to the company and its shareholders.² The company going into an expensive and risky pioneer oil and gas sector needed these guarantees and assurances. The Act provides in subsection 2 of section 6 of the Act that notwithstanding the provisions of section 10 of the Industrial Development (Income Tax Relief) Act, the tax relief period of the Company shall commence on the production day of the Company and shall continue for a period of ten years.

The Act further provides that in respect of any work or services provided from outside Nigeria to the Company by any person other than a Nigerian company or citizen, that person shall be exempted from tax on income or profits arising from the provision of that work or those services.³ Section 6 (8) provides that Where any shipping company owned directly or indirectly by the company or one or more of the shareholders of the Company carries on the business of transport by sea of liquefied natural gas produced by the Company, such shipping company shall be exempted from tax in Nigeria under section 14 of the Companies Income Tax Act, or any other law, on the profits derived from that business.

The Act in section 7 (1) exempts the company and its sub- contractors from payment of import duties, taxes and all other duties, levies, charges and imports of a similar nature, in respect of all necessary imports of plant, machinery, goods and materials for use in the construction of, or incorporation in the plant, jetties, shipping, transmission facilities and ancillary works used in the Company's business, and in respect of any major spare parts needed in the event of a plant failure and ordered within two years of commissioning that part of the plant for which the particular spare part is ordered. However, to be entitled to this exemption, the company shall provide to the Comptroller-General of Customs a schedule of the categories of items within subsection (1) of section 7 to be imported, before the items are imported into Nigeria and if the Comptroller-General of Customs is not satisfied that it is necessary to import any item or items so notified, he shall give notice to the Company within fourteen days of receipt of the schedule or revisions thereto, and import duties or other tax levied by any other Act shall be payable by the Company in respect of that item or items.

Where the Company disagrees with any notice issued by the Comptroller-General of Customs under subsection (2) of section 7, it may, within thirty days of receipt of the notice, give written notice of its dissatisfaction to the Comptroller-General of Customs and to the Minister of Internal Affairs, who shall hear representations from both the Company and the Comptroller-General of Customs to determine whether exemption shall be granted; and the determination of the Minister of Internal Affairs on the matter shall be final and binding.⁴ Pending notification of

² See the Preamble to the Nigerian LNG (Fiscal Incentives, Guarantees and Assurances) Act

³ Ibid section 6 (5)

⁴ Ibid section 7 (3)

the determination of the Minister, the importation of the items in dispute shall be allowed without any restriction or payment of duty.⁵ Such duty as may be payable under the determination of the Minister shall be paid upon importation of the item in dispute or within thirty days of the receipt of the Minister's notification, whichever is later.⁶

The provisions of the Pre-shipment Inspection of Imports Act and Regulations made under it requiring pre-shipment inspection, the submission of reports in connection therewith under the Comprehensive Import Supervision Scheme and the "Form M" Procedures,⁷ the "Form C-3.1" Procedures⁸ or such other similar procedure of the Central Bank of Nigeria, shall not apply in relation to the importation of a plant, machinery, goods and materials for use in the construction of or incorporation of a plant, jetty, shipping, transmission facilities and ancillary works used in the Company's business and in respect of any major spare parts needed in the event of a plant failure and ordered within two years of the commissioning of that plant for which the spare part is ordered.⁹ No export duties, levies or charges of a similar nature shall be payable or imposed on the export of liquefied natural gas or other hydrocarbons produced by the Company.¹⁰

It is however sad that with all the fiscal incentives granted to the Liquefied Natural Gas project at Brass and the heavy financial investment of the government in the project, the government's stake in the project was sold to an Indian private investor who is now feeding fat on it paying only tax and rents to the Nigerian government.

Through statute, the Nigerian government also grants incentives to companies that utilize associated gas instead of flaring it. Where an oil company utilizes instead of flaring associated gas, the Petroleum Profit Tax Act allows him to deduct the cost of gas utilization from his profit before taxing him.¹¹ Any investment such a company makes to separate crude oil and gas in the reservoir into usable products, capital investment on facilities and equipment to deliver associated gas in useable form are all deductible from profit before taxation.¹²

⁵ Ibid section 7 (4)

⁶ Ibid Section 7 (5)

⁷ Form M is an import form any person who intends to import physical goods into Nigeria must process through an authorized dealer bank in Nigeria irrespective of the value of the goods and whether or not payment is involved. Form M is considered similar to an import license. No importer should ship goods into Nigeria without Form M. The responsibility of obtaining Form M is that of the importer not that of the shipper of the goods. Contents of Form M include proforma invoice, insurance certificates, regulatory certificate/permits etc.

⁸

⁹ Ibid section 7 (6)

¹⁰ Ibid section 7 (7)

¹¹ See section 11 of the Petroleum Profit Tax Act.

¹² Ibid section 13

The incentives extended to associated gas utilization are no doubt well thought out and deserving. Gas flaring is not only an environmental menace, it is a huge economic loss. If gas is not flared, but appropriated for processing and utilization, the economic benefits that would be made would be far in excess of the tax incentives granted by the Act.

Memorandum of Understanding

To explore or prospect for oil, Nigerian government through Memorandum of Understanding (MoU) sometimes dangle the carrot of fiscal incentives particularly to International Oil Corporations (IOCs) to persuade them to embark on oil exploration and prospecting. Apart from granting these incentives through MoUs, the government may seek to grant the incentives through side letters.

Side Letter

A side letter is a letter from a higher authority that seeks to modify the contents of an agreement between two or more contracting parties. After entering into a contract with an agent with a disclosed or known principal, a party to the agreement can lobby the principal for a side letter to modify the agreement to remove from it what he feels is a rigor or burdensome to him. The principal if he is persuaded may then issue a side letter seeking to relieve the alleged rigor of the contract.

Sometimes after entering into contracts with NNPC or its subsidiaries or Corporate Service Units, IOCs do lobby the Nigerian President for side letters to relieve perceived rigors of the contract. This was exactly what happened between NNPC and ADDAX Petroleum. After entering into a Production Sharing Contract with NNPC, ADDAX lobbied the Nigerian President for a side letter to vary the Petroleum Profit Tax (PPT) it was subject to under the Production Sharing Contract and under the Petroleum Profit Tax Act and the Deep Offshore and Inland Basin Production Sharing Contracts Act. The President issued the side letter sought by ADDAX. Whereupon NNPC wrote to the Attorney General of the Federation requiring him to clarify whether a side letter can vary not only the terms of an agreement validly entered into by both parties, but the law the agreement is subject to. The Attorney General wrote restating the relevant provisions of the PSC agreement and the legal position of a side letter thus:

Under clause 15 A and B of the PSC agreement, it was mutually agreed that:

- (a) The PPT shall be in accordance with the PPT Act, Cap 354 Laws of the Federation of Nigeria 1990 as amended.
- (b) The PPT rate applicable to the contract area shall be 65.75% for the first 5 years from the effective date of each field developed in the contract area commencing from the first day of the month of the first sale therefrom and 85% thereafter, provided however that if better rates are made available to other producing companies in Nigeria in similar circumstances, same shall be applicable to the Contractor.

To modify the above provision, ADDAX obtained a new and different fiscal regime from government conveyed in a side letter dated 21st November 2001 addressed to NNPC Group Managing Director. On these facts, the Attorney General of the Federation opined that where parties enter into a contract, they evinced by that fact an intention to be bound both by the terms of the contract and the applicable law and cannot depart from any of the two at will. Put succinctly, ADDAX Petroleum cannot jettison or resile from the provisions of the PSC or the PPTA which it had of its own volition accepted to bind it.

The Attorney General went on to state that a side letter whoever its author is cannot alter or modify the clear and unambiguous provisions of existing tax laws. He maintained that provisions of a statute can only be altered or amended by subsequent Act of the Legislature or by a decision of the court either outrightly striking down certain provisions of the Act,¹³ or providing the correct interpretation of some provisions of the Act. In the latter case the legislature is obligated to bring the affected law into conformity with the court's decision by making necessary amendments.

Government fiscal incentives through statute, memorandum of understanding or indeed the side letter may take the form of either investment tax credits, investment allowance, capital allowance or depreciation allowance. The various types of fiscal incentives are here below discussed.

Investment Tax Credits

Investment Tax Credits are used to reduce tax. When a company makes an investment by purchasing a capital item, it may claim the amount that it used to purchase the item as an investment tax credit. Oil companies in Nigeria, particularly those in

¹³ This opinion of the Attorney General is of doubtful authority. In Nigeria, a judge may interpret the law in a manner that seeks to modify it, but he cannot strike down provisions of the law that appear inappropriate to him. For instance in *Amaechi v. INEC* (2008) SCNJ p.1, the Supreme Court per Oguntade JSC gave the correct interpretation to section 34 (2) of the 2006 Electoral Act which requires that a candidate that wins the primaries of his party can only be substituted by the party giving cogent and verifiable reasons for the substitution to INEC. The Supreme Court also in this case sought to give the correct interpretation to the EFCC Act by stating that EFCC can only investigate and prosecute, but cannot indict anyone as PDP alleged it has indicted Amaech and that was why the party substituted him with Omehia. In the same case, the Supreme Court gave an interpretation of section 182 (i) of the 1999 Constitution. The section provides that: 'No person shall be qualified for election to the office of the Governor of a state if he has been indicted for embezzlement by a Judicial Commission of Inquiry or an Administrative Panel of Inquiry or a Tribunal set up under the Tribunal of Inquiry Law or any other law by the Federal or State Government which indicted has been accepted by the Federal or State government.' According to Oguntade JSC, assuming without conceding that EFCC had power to indict and did indict Amaechi, such indictment cannot debar Amaechi from contesting the 2007 gubernatorial election on the basis section 182 (i) of the 1999 Constitution. According to his lordship, section 182 of the Constitution only enables a Judicial Commission of Inquiry or an Administrative Tribunal to determine the culpability of a citizen alleged to be in breach of standards of behaviour expected in public life. Where such inquiry or tribunal finds a citizen liable or culpable of a conduct bordering on criminality and the federal or state government accepts such report, it is still not good enough to deny the citizen eligibility to the office of a governor unless and until he is afterward prosecuted and convicted by a court of law.

offshore exploration and production, are entitled to investment tax credit under Nigerian fiscal incentives laws. Under Nigerian tax law, an oil and gas company may be allowed to deduct investment tax credits from its taxable profit.

Investment Allowance

Investment Allowance allows an investor to deduct from taxable income a certain percentage of cost of eligible assets, i.e., assets that are entitled to investment allowance. Oil companies in operation in Nigeria, particularly those in offshore exploration and production may be entitled to investment allowance under Nigerian fiscal incentives laws. Under Nigerian tax law an oil and gas company may be allowed to deduct investment allowance from its taxable profit.

Capital Allowance

Capital allowance is the sum of money a business can deduct from the overall corporate and income tax on its profits. These sums derive from certain purchases or investment outlined in capital allowances law. For instance, capital allowance may be claimed for the cost of vans, cars, machines, scaffolding, ladders, tools, equipment, furniture, computers and also from expenditure on plant, machine, building, research and development facilities.

There are concessions granted petroleum companies known as Capital Allowance and Petroleum Investment Allowance; the former is deducted in arriving at the taxable income and entails expenditure on equipment, pipelines, storage facilities, buildings and drilling costs. These are referred to as qualifying assets. The applicable rate of Capital Allowance for any year is 20% of the cost of the qualifying assets applied on a straight-line basis for the first 4 years and 19% for the 5th year. The latter is regarded as an addition to capital allowance and covers allowance in respect of new investments in assets for petroleum exploration; it is available in the accounting period in which the assets are first used.

It must be stated that the deduction of Capital Allowance is restricted, so that for any accounting period, the tax on the company should not be less than 15% of the tax which would have been assessable had no capital allowances been granted the company. Investment tax credits, investment allowance and capital allowance in most cases have differences only in nomenclature. In what they are or do for investors, they are largely the same. They all shed off tax for the investor.

Depreciation Allowance

Depreciation Allowance is an allowance for loss due to depreciation. For instance, a depreciation allowance may be claimed for loss arising from the depreciation of a machine or truck. Nigerian petroleum tax law however does not provide for depreciation allowance and no oil company is allowed to make deductions of depreciation allowance from its taxable profit.

All allowances and credits referred to here are cash handouts the government can dole out to IOCs as incentives for them to undertake oil operations. Not only to IOCs, these incentives are available to indigenous oil companies, which the Nigerian

government over the years has been trying to encourage to participate more in the oil and gas industry. In fact, by the Local Content Act and Marginal Fields Decree, indigenous oil companies are more entitled to fiscal incentives than IOCs.

Returns on Oil and Gas

Returns on oil and gas are either from participating interest or ownership rights. The Nigerian government through NNPC participates in the oil industry by making substantial investment into oil exploration and production. Indeed NAPIMS Corporate Service Unit of the NNPC was set up principally to manage Nigerian government investment in the upstream sector of the oil industry. Being owner of petroleum resources found in Nigeria, the Nigerian state is also entitled to returns on ownership rights. The various returns are considered below.

Returns on Participating Interests

In almost all the Joint Ventures with IOCs that NNPC is a party to, NNPC equity share is either 60% or 55%. In addition to financial investment, the Corporation invests time and manpower to monitor and to some extent regulate the activities of the IOCs. In some cases, the corporation is in direct operations in the oil fields and oil wells. In a narrow sense participating interest refers to the entitlement of the Nigerian government from the aforementioned investments. In a broad sense, participating interest means the entitlements of the Nigerian government as a result of its general participation in the oil and gas industry. For instance, NPDC a subsidiary of NNPC is involved in direct exploration and production of petroleum and gas; IDSL is involved in seismic data acquisition; NETCO is involved in offering petroleum engineering consultancies; NAPIMS in addition to managing government's investments in the oil industry is involved in frontier exploration for oil. All the subsidiaries and Corporate Service Units of NNPC are involved in one activity or the other that is either an investment of time, money or man power. All these entitled the Nigerian government that NNPC represents to a participating interest in a broad sense.

The only return NNPC collects on behalf of the federal government are proceeds from equity lifting. Concession rentals and royalties are collected by DPR, while petroleum profit tax is collected by FIRS.

Returns on Ownership Rights

Rents

Rent is payable to a landlord. The 1999 Constitution, the Land Use Act, and the Petroleum Act having vested ownership of petroleum in the Federal Government of Nigeria, a licensee and lessee of an oil prospecting license and oil mining lease is required to pay rent to the federal government as the landlord of oil. Rents are paid because of possession by the rent payer who may be termed a tenant. Therefore they are continuously paid by an oil prospecting licensee and oil mining lessee as long as any of them is in possession of the licensed or leased area. Strictly speaking, rents have

nothing to do with any profit the licensee or lessee is making out of the rented oil field. Broadly speaking, however, rents do sometimes avert to benefits a licensee or lessee is taking by reason of possession.

Rents to the Nigerian government are paid to the Department of Petroleum Resources which receives the rents on behalf of the government. Usually rents paid by licensees and lessees of prospecting licenses and mining leases are called concession rentals, i.e., rents paid for concession of an oil acreage or bloc by the government which is the owner of the bloc. Concession carries the notion of the concessionaire being in absolute charge of the conceded thing. This being the case, an oil exploration licensee cannot strictly speaking be regarded as a concessionaire being not in absolute charge of the area licensed to him. Being not in absolute charge, he should not pay rent. But he pays rent. The reason for this may be that since in practice oil exploration license are not granted, only oil prospecting license is granted, the oil exploration licensee carrying an oil prospecting license should pay what the oil prospecting licensee pays.

Reg. 60 of the Petroleum Drilling and Production Regulations provides for rents thus: 'A rent of ₦500 shall be payable for each calendar year for which an oil exploration license is in force, and where the license is in force for only a part of a calendar year, that part shall be regarded as a calendar year for the purpose of this paragraph.'¹⁴

The Regulations provide further that the annual rent payable on an oil prospecting license and oil mining lease shall be:

- i. An oil prospecting license for each square mile or part thereof is \$10;
- ii. An oil mining lease for each square kilometre or part thereof of a producing oil mining lease for the first ten years is \$20;
- iii. Thereafter for each square kilometre or part thereof until expiration of the lease and or renewal is \$15.

Royalties

Royalties are payments made by a lessee to a lessor or by a licensee to a licensor because of use of the lessor's property by the lessee or because of the use of the licensor's property by the licensee. Royalties are usually agreed upon as a percentage of a gross or net revenue derive from the use of an asset. Strictly, speaking therefore royalties are not supposed to be paid for the bare use by the lessee or licensee, but by use that yields a profit. This means that oil prospecting licensees will not pay royalties if they don't make a profit. If paid because of profit made, royalties look very much like profit tax. In the sense discussed here, royalties are premium payments.

In the oil industry however, royalties are paid both by licensees and lessees to the Nigerian government for mining the nation's petroleum without reference to profit.

¹⁴ See section 60 (1) of the Petroleum Drilling and Production Regulations.

Lessees are leased oil fields to mine and are required to pay royalties not necessarily on any resultant value they are deriving. In a Production Sharing Contract, the first oil to come out of a producing well is royalty oil. Royalties to the Nigerian government are paid to the Department of Petroleum Resources which receives the royalties on behalf of the government.

In Nigeria, oil royalty is a flat 20% on land. Under the Petroleum Industry Bill, royalty will be based on production. It starts from 5%. As production goes up royalties increase.

Reg. 61 of the Petroleum Drilling and Production Regulations provides for royalties. The regulation provides that the licensee or lessee shall pay royalty to the Minister not more than one month after the end of every quarter including the quarter in which his license or lease becomes effective.¹⁵ The regulation provides for payment of royalties as follows:

- i. In onshore areas 20%
- ii. In areas up to 100 metres water depth18.5%
- iii. In areas up to 200 metres water depth.....16.5%
- iv. In areas up to 201 to 500 metres water depth.....12.5%
- v. In areas up to 501 to 800 metres water depth.....8%
- vi. In areas up to 801 to 1000 metres water depth.....4%
- vii. In areas beyond 1000 metres water depth.....0%

The Deep offshore Act graduates royalties the same way the Petroleum Drilling and Production Regulations does and like the Petroleum Drilling and Production Regulations, it does not stipulate royalties for deep offshore mining. It does so not in recognition of lack of profit by oil companies drilling for oil deep offshore, but as an incentive for them to explore and produce petroleum in deep offshore. At any rate, as maintained earlier, profit or the lack of it is not the criterion for imposing or not imposing royalties on oil companies.

Be this as it may it is worth noting that the Petroleum Drilling and Production Regulations were made in 1969 while the Deep Offshore Decree was enacted in 1999 thirty years after. Yet considerations that significantly reduce royalties for deep offshore exploration and mining in Nigeria do not appear to have been affected by development of deep offshore technology that has taken place over the years. The whole consideration of reducing royalties for licensees and lessees exploring and mining petrol deep offshore is the difficulty of and expense of doing

so. As technology of oil exploration and oil mining in deep waters develops, this difficulty decreases and the decrease in exploration and mining difficulty should reflect in charged royalties. *When the reason for a thing ceases, the thing ceases with the reason.* As a matter of fact, there is need for redefinition of deep offshore to reflect

¹⁵ Reg.61 (1)

technological development. 1,000 metres water depth might have been deep waters in 1969. Today may be it is 2000 metres water depth that should be deep offshore.

Petroleum Profits Tax

Nigerian law by virtue of the Petroleum Profits Tax Act requires all companies engaged in the extraction and transportation of petroleum to pay tax. The taxable income of a petroleum company comprises proceeds from the sale of oil and related substances used by the company in its own refineries plus any other income of the company incidental to and arising from its petroleum operations. The taxable income of a petroleum company is subject to tax at 85%. However this percentage is lowered to 65.75% during the first 5 years of operation. Where oil companies operate under production sharing contracts they will be liable to tax at a rate of 50%.¹⁶

Under the Petroleum Industry Bill, profits made from onshore petroleum are after making incentives deductions, subject to 50% tax while those made from offshore petroleum are subject to 25% tax.¹⁷ It is clear from this that the tax rate in the new law has been lowered. The consideration for this is not too clear. Perhaps it is likely to be another incentive for the oil and gas companies from a country in need of increase in oil reserves and production.

Tax is 65% for the first 5 years. After the first five years, tax goes to 85%. The PIB gives tax incentives to indigenous oil companies. Their tax rate for the first 5 years is 40-50%. Thereafter it is 80%.

Taxes to the Nigerian government are paid to the Federal Inland Revenue Service, which receives the taxes on behalf of the government. This being the case, NNPC does not receive such taxes from oil companies.

Outside rents, royalties, bonuses and taxes, oil companies exploring for oil offshore the U.S, pay the U.S government for drilling rights. Shell Petroleum in 2005 pays the U.S government 2.2 billion dollars for drilling rights off the icy coast of Alaska.¹⁸

Generally, revenues to the federal government from the petroleum industry are from crude oil liftings. It is worth noting that crude oil liftings are in various categories namely: equity crude, petroleum profit tax oil, royalty oil and third party financing oil which the Nigerian Petroleum Development Company (NPDC) secures. Revenues from the proceeds of sale of each of these categories of oil liftings are statutorily collected by different agencies of government. The NNPC collects only one of the aforementioned categories namely equity crude. Petroleum profit tax is collected by the Federal Inland Revenue Service (FIRS), Royalty goes to the Department of Petroleum Resources (DPR), while third party financing goes to Nigerian Petroleum Development Company for upstream petroleum development.

¹⁶ See section 20 of the Petroleum Profit Tax Act

¹⁷ See section 313 of the Petroleum Industry Bill

¹⁸ features.blogs.fortune.cnn.com. After the 2010 Gulf of Mexico oil spill Alaska outer continental shelf has been off limits oil companies because of lawsuits and regulatory hitches

While NNPC pays proceeds from equity crude into the federation account with the Central Bank of Nigeria (CBN), FIRS and DPR pay petroleum profit tax and royalty into the federation account with CBN.

In a barrel of crude oil, there is equity oil, cost oil, profit oil, tax oil. So the whole money in a barrel of crude oil does not go the federal government. Royalties and taxes go to government; profit does not go to government but to the NNPC arm managing commercial investment.

Paragraph 40 of the first schedule to the 1969 Petroleum act provides that if any fee, rent or royalty due under the Act is unpaid for a period of one month after the date when it becomes due (whether legally demanded or not), the Minister may, in addition to any other remedies which may be available:

- (a) enter into and upon any land, property or premises possessed or occupied by the licensee or lessee in connection with the licence or lease; and
- (b) seize and distrain and sell as landlords may do for rents in arrears, any petroleum, petroleum products, engines, machinery, tools, implements or other effects belonging to the licensee or lessee which may be found in or upon the land, property or premises; and
- (c) out of moneys arising from the sale of the distress, retain and payoff the arrears of the said fee, rent or royalty and also the costs and expenses incident to the distress and sale, rendering the surplus (if any) to the licensee or lessee.

However, paragraph 41 (1) of the first schedule under reference provides that failure on the part of the holder of a licence or lease to which this schedule applies to fulfil any of the terms or conditions of the licence or lease shall not (except as may be otherwise provided for in or in relation to the licence or lease) give the Minister any claim against the licensee or lessee, or be deemed a breach of the licence or lease, if the failure arises from causes beyond the control of the licensee or lessee. If from any such cause the fulfilment by any such licensee or lessee of any term or condition of his licence or lease or of any provision of this Act is delayed, the period of delay shall be added to the period fixed for the fulfilment of the term or condition.¹⁹ If any question or dispute arises in connection with any licence or lease to which this Schedule applies between the Minister and the licensee or lessee (including a question or dispute as to the payment of any fee, rent or royalty), the question or dispute shall be settled by arbitration unless it relates to a matter expressly excluded from arbitration or expressed to be at the discretion of the Minister.²⁰

All said and done, the oil industry in Nigeria as elsewhere is driven by an interplay of taxes, royalties and incentives. A proper deployment of these three gives the principal players in the industry the incentive to play.

¹⁹ See paragraph 41 (2) of the first schedule to the 1969 Petroleum Act

²⁰ Ibid paragraph 42

Stability of Oil and Gas Investment Contracts and Protection of Foreign Investment

Stability of Oil and Gas Exploration and Production Contracts

The use of stabilization clauses originated in the period between the 1st and 2nd world wars when U.S companies used it to preserve concession agreements they had with Latin American countries because of Latin American nations' nationalization of foreign oil companies. Generally, stabilization clauses are used as security to inhibit legislative or administrative override to mutually accepted contractual terms.

Oil exploration and production contracts have peculiar features: long-term, capital intensive, high risk – geological, commercial, technical, managerial, natural disaster and political risks. International Oil Corporations operating mostly in developing countries always want security of tenure for their capital investment in such countries. They inject into oil exploration and production contracts provisions that seek to preserve not only the life span of the agreement but its essential terms. In seeking to achieve this, legitimacy of maintaining the status quo is often sought from the principle of sanctity of contract and other principles of international economic law.

Stabilization clause is a contractual drafting technique used to mitigate political risks in a host country. Foreign investors see the oil and gas industry, the difference in the socio-economic and ideological outlook and even the legal system of the host state as potential risks and seek through stabilization clauses to insulate their investments from all these. A stabilization clause therefore is a sort of insurance cover for investors in the oil and gas industry against perceived risks.

Stability clauses can be divided into two: freezing clauses that preserve the contract for a period of time. A freezing stabilization clause freezes the law and circumstances at the time of the contracts and seeks to move on with them in their frozen state. Economic equilibrium clauses that allow for adjustment of contractual terms over time so that a change in circumstances does not benefit one party to the detriment of the other. An economic equilibrium clause requires the government to restore the balance of risks and rewards established in a contract when it is upset by a new regulation or tax. A Nigerian production sharing contract equilibrium clause may provide that:

The parties agree that the commercial terms and conditions of this contract are based on the existing fiscal terms in accordance with the provisions of the Deep Offshore and Inland Basin Production Contract Act 1999. If such fiscal terms are changed, the parties agree subject to clause ... to review the terms and conditions of the contract affected by those changes to align such terms and conditions with the fiscal terms.

Legal Perspectives on Stability of Oil and Gas Contracts

Before committing substantial resources to long term agreement as oil concessions, joint ventures, production sharing contracts or service contracts, international oil corporations carry out elaborate financial projections and cash flow analysis in order to determine the expected returns on their investment. In making these projections calculations, they demand that governments unequivocally spell out the full range of fiscal impositions such as taxes, royalties, duties, rents, bonuses to be stipulated on the transaction for the entire duration of the agreement. For example, in the oil concession by Nigeria to Shell in the Oyakama area of the Niger Delta, Shell in 1961 required Nigeria to fix the royalties and rents that Shell will pay to the country for a period for 15 years. They contended further that bankers and other financial institutions will not provide them financing for their projects unless they present to them definite long-term contracts concluded with host governments which spell out in great details the entire fiscal package and contain iron-cast guarantees from the host government regarding these financial arrangements.¹

With the impending passing of the Petroleum Industry Bill, the possibility of policy reversal that may affect the terms of existing petroleum contracts becomes a serious issue with IOCs operating in Nigeria. Frequently, investors in the oil and gas sector seek guarantees contractual or otherwise to protect their investments through stabilization clauses.

International oil corporations concerned with stability and predictability of investment contracts as prerequisites for prudent investment always seek to achieve such stability through stipulation of stability clauses in oil exploration and production contracts. These aimed at freezing the essential premises of the agreement by strictly prohibiting any legislative or administrative act which derogates from or is otherwise inconsistent with the provisions of the agreement. The imposition of any fiscal changes in the general industrial or commercial sectors in excess of the fiscal changes provided in the agreement, expropriation, nationalization and any other form of intervention in the enterprise like the amendment of laws such as corporate and tax

¹ Samuel K.B. Asante, United Nations Effort at International Regulation of Transnational Corporation contained in the New International Economic Order by Kamal Hodson, p.128

laws which were in force at the date of the agreement were seriously resented by international oil corporations.²

After independence, some newly independent states asserted the concept of permanent sovereignty over natural resources as a *sine qua non* of national independence and economic self-reliance. In this, they sought and obtained support from the various resolutions of the United Nations on the issue. On this basis, they sought to renegotiate concessions contracts or nationalize international oil corporations that enjoyed such concessions. International oil corporations were opposed to this, arguing that oil concessions must be preserved on the grounds of sanctity of contract. This assertion was based on the Anglo-American conception that conceives contract as the most convenient tool of capitalism, inspired by a proud spirit of *laissez faire* individualism. The classical ideal of contract is that it is a private bargain struck by parties of equal bargaining strength. It is firmly rooted in the freewill of the parties; it is also an institution of the market place in every day capitalist society that is guided by the free will theory of contract. Courts are extremely hesitant to render a contract void or to readjust the bargain struck by the parties. They consider it to be in the supreme interest of the social order that men of full age and competent understanding should have the utmost liberty of contracting, and that their contracts when entered into freely and voluntarily should be held sacred and enforced by courts of justice.³

By the sanctity of contract theory, international oil corporations, deemed a concession a done deal with fixed obligations, rights, impositions and benefits. According to them concessions do not admit of variations or modifications of the terms of the agreement. Any departure from such a transaction is deemed repugnant to sanctity of contract. In colloquial language once a party has made his 'kill' in a contractual transaction, he is entitled to it and nothing can be done to undo it.⁴

Subsequently, courts began to apply an objective theory of contract, which enabled them to intervene actively to rectify contractual provisions on grounds of equity. According to the courts, there is no immutable doctrine of contract and so developing countries are perfectly entitled to invoke ideas of fairness and equity in reviewing contracts which were inimical to the national interest.⁵

The above position of the courts reflects legal realism. Sanctity of contract has never been treated as absolute and an unqualified principle in any of the major legal

² G., Ajiboye, National Resource Management in Nigeria Contained in Environmental Law and Policy by T.E. Adeyemi, p. 174

³ F.A. Mann, State Contracts and State Responsibility, *America Journal of International Law* vol. 54, 1966 p. 58.

⁴ Lovis B. John and R.R. Baxter, Responsibility of States for Injuries to the Economic Interest of Aliens, published in *American Journal of International Law* Vol. 55 (1961).

⁵ R.Y., Jennings, State Contracts in International Law, *British Yea Book of International Law*, Vol. 37 (1961) p. 1560.

systems. The French doctrine of *imprevision* and the concept of good faith all provide for the review of contracts in appropriate cases by reference to objective criteria not traceable to the will of the parties. According to the doctrine of *imprevision*, an alteration of contractual rights between a state and a foreign company can take place upon the occurrence of a subsequent event not foreseen by the parties which has rendered the obligation of one party so onerous that it may be assumed that if he had it in contemplation he would not have made the contract at least on terms he made it. Under English law, there is no similar provision sparing of course the common law principle of frustration which excuses the strict performance of a contract because it has become impossible or illegal to do so.⁶

The barest acquaintance with the actual circumstances surrounding the conclusion of concessions between metropolitan companies with African chiefs disposes of the will theory of freedom of contract. The hollowness of the pretence that colonial transactions with illiterate chiefs are freely negotiated translations between parties of equal bargaining strength is quite evident. International oil corporations were offered privileged investment interest in the colonies and given such grotesquely favourable terms as would scarcely survive the collapse of colonialism. It is patent fallacy to characterize such interests as grounded on contracts freely negotiated by parties of equal bargaining strength. The circumstances surrounding the conclusion of these transactions belie all the classical theory of freedom of contract. In such circumstances, host governments of newly independent states considered renegotiation or restructuring of these arrangements as a legitimate part of the decolonization process. Even the modern variant of these transactions such as oil and gas investment agreement between the government of a developing country and an international oil corporations cannot be truly described as arm-length transactions rooted in the free will of parties of equal bargaining power because of the superior negotiation skills, knowledge and more favourable bargaining positions which international oil corporations usually command at the inception of the relationship.

A long-term investment agreement for the exploitation and marketing of oil and gas is anything but a private contract. It is rather a major instrument of public policy, a prominent feature of a development plan. These transactions provide a framework for a joint public enterprise in which the government and the foreign partner engage in the development of oil and gas. These transactions lie more in the domain of public law than in the province of private contract and consequently the traditional individualistic doctrines as well as the speculative rules devised for the exchange of fungible commodities in a market regime are clearly not applicable to them. It follows

⁶ Annual Report of the Secretary General to the Administrative Council in 1974 and 75. It is worth wondering if a nation can bring up the contractual doctrine of frustration or *force majeure* against a stabilization clause.

that these transactions cannot be insulated from the pressures, which impinge on public institutions such as political change in the country, changed economic conditions and the general expectations of the public.⁷

To further immunize such contracts from possible variation by host states, jurists from capital exporting countries have argued that the peculiar features of an investment agreement between a government and a foreign company makes it an international agreement and therefore subject to such international legal doctrines as *pacta sunt servanda* (i.e. agreement must be kept at all costs). The implication of such contention is that the contractual interest of an international oil corporation constitutes an acquired right and cannot be invaded by the state even on the payment of prompt, adequate and effective compensation.⁸

Again, jurists from multinational states seek to insulate investment agreements from the operation of the host state by classifying the investment as an independent and self-sufficient system of law regulating the range of relations between the host government and the foreign company without reference to any municipal law. In effect, the investment agreement creates a separate, self contained body of legal principles, which exclusively govern relations between the host state and the transnational corporation. Other jurists talk of acquired rights and succession by which they mean successive state governments are bound to keep to the terms of the agreement. On the issue of investment agreements being international agreements governed by *pacta sunt servanda*, such argument may be met by another principle of international law *clausula rebus sic stantibus* which sanctions the revision of investment agreements on grounds of equity and fundamental change in circumstances.

As regards the theory that investment agreements create an independent exclusive and self-sufficient legal system, this is patently untenable on the grounds that the validity of any agreement must itself derived from some external legal order, be it international or municipal. It follows that the concept of immunity implied in these terms cannot be sustained without reference to some legal system.

An arbitral tribunal in *Revere Copper v. OPIC Investment Dispute Case*⁹ held that under international law, the commitments made in favour of foreign nationals are binding notwithstanding the power of parliament and other governmental organs under the domestic constitution to override or nullify such commitments.

The above holding however can hardly be enforced considering states sovereignty. Impossible to enforce, renegotiation becomes imperative. A renegotiation clause provides that if future laws enacted by the host state should affect the foreign

⁷ Case Concerning East Timor (Portugal vs. Australia) ICK Rep. 1995 Certain Phosphate Lands in Nauru (Nauru vs. Australia) ICJ Rep. 1992 p. 24

⁸ Color G. *Cases and Materials on International Trade* (Butterworths, London 1978) 2nd ed P. 136

⁹ See Andreas F. Lowenfield, *International Economic Law* (pub. Oxford University Press, 2007) 2nd ed. P.543

investor's contractual position, renegotiations shall be entered into to maintain or restore the economic equilibrium of the contract. By agreeing to renegotiate, the state binds itself and cannot unilaterally alter the terms of the contract.

Renegotiation of Investment Contracts

Despite the armoury of traditional law, international oil corporations and foreign governments actuated by a shrewd sense of realism, if not equity, came to accept the renegotiation or restructuring of colonial investment contracts which include oil and gas exploration and production contracts with international oil corporations. This development represented the triumph of commonsense and equity over formal doctrines. Some of the more realistic investors abandoned the idea that an investment contract constitutes an inflexible structure, which must be rigorously enforced to the letter, humorously opining that a concession agreement may be regarded as an agreement to make concessions.

Pursuant to the above realism, Nigeria has severally renegotiated its oil concessions with international oil corporations. Renegotiation has since been acknowledged as an integral feature of foreign investment. According to OPEC, changed economic circumstances provide a legitimate basis for host governments to renegotiate petroleum agreements. In resolution No.16 of 1968, OPEC declared that state governments have a right to negotiate contracts when international oil corporations serving as operators receive excessively high net earnings after taxes.

The Secretary General of the International Centre for Settlement of Investment Disputes has also advocated the adoption of renegotiation and review clauses in investment agreements as a mechanism for avoiding or containing conflicts and investment disputes. Accordingly, a growing number of investment agreements now stipulate various formulae for renegotiation. For instance, the agreement between the government of Papua New Guinea and Bougainville Copper Ltd. 1974 provided that the parties will meet at an interval of 7 years to consider in good faith whether the agreement was operating fairly to each of them and if not, to use their best endeavours to agree upon such changes to the agreement as may be requisite in that regard.

Similarly, the on shore (Voltaian Basin) Petroleum agreement between the government of Ghana and Shell-Exploration and Product Company of Ghana a subsidiary of Shell International, contains the following provision:

It is hereby agreed that if during the term of this agreement, there shall occur such changes in the financial and economic circumstances relating to the petroleum industry, operating conditions in Ghana and marketing conditions generally as materially affect the fundamental economic and financial basis of this agreement, then the provisions of this agreement may be reviewed or renegotiated with a view to making such adjustments and modifications as may be reasonable having regard to the operator's capital employed and the risk incurred by him, always provided that no such

adjustments and modifications shall be made within 5 years after the commencement of production of petroleum in commercial quantities from the production area.

Be the above as it may, globalisation of finance and the crave for foreign investment by developing nations often prevents renegotiation of unfair investment contracts. The ruling spirit now is how a nation state may attract foreign investment and not how to curb the flow of such investment. That is why counties are privatising to pave way for the in flow of foreign capital.¹⁰

All said and done, in an industry with long project cycles, in an industry that is capital intensive and extensive like the oil and gas industry, stable contractual and fiscal terms are important in persuading oil corporations to invest. Be this as it may, it is worth noting that some host nations may offer stabilization clauses that are not enforceable. Therefore international oil corporations must exercise caution and due diligence dealing with such nations even when they offer them good stabilization clauses.

It is worth noting that there are many petroleum rich nations that do not offer clauses designed to provide stabilization and IOCs have no difficulty living with such legal regime because the legal and political risks in such nations are low. U.K and Norway are examples of such nations. In other nations, though the legal and political risk may be high, the geological risk is so low that IOCs accept a contract without stabilization clauses. Saudi Arabia and Brazil are examples of such nations.

Protection of Foreign Investment

Under international economic law, a host state that receives foreign investment into it has a responsibility to protect it from loss or some other harm. All investments by international oil corporations in operation in Nigeria, particularly in the upstream sector of the oil industry, are foreign investments that under international economic law deserve protection. The rule of the protection of foreign investment though not a customary rule of international law has become part of the *jus cogens* of international law created by bilateral treaties. There are four aspects of the rule which are examined below.

Admission of the investment

This is the first rule for the protection of foreign investment. By this rule, international economic law requires that international investment should be accorded national treatment on admission into the host state. This means it should not be

¹⁰ Kavaliji Singh, The Globalisation of Finance; A Citizen's Guide p.45-62

treated differently or discriminatorily as against domestic or home investment. Instead, it should be treated equally with investment from the host state.¹¹

Contrary to the above rule of protection of international investment, however, the Nigerian government driven by the national interest objective of achieving appreciable local content in the oil industry, in 2010 enacted the Local Content Act to ensure the attainment of this objective. The Act in section 3 provides that Nigerian Independent operators shall be given first consideration in the award of oil blocs, oil field licenses, oil lifting licenses and all projects for which contracts are to be awarded in the Nigerian oil and gas industry subject to the fulfilment of conditions specified by the Minister of Petroleum. The Act went on to provide that there shall be exclusive consideration to Nigerian indigenous service companies, which demonstrate ownership of equipment, Nigeria personnel and capacity to execute such work to bid on swamp and land operating area of the Nigerian oil and gas industry for contracts and services contained in the schedule of the Act.¹² Compliance with the provision of the Act and promotion of Nigerian Content development shall be a major criterion for the award of licenses permits and any other interest in bidding for oil exploration, production, transportation and development in Nigeria.¹³

Still pursuant to achieving Nigerian content in the oil and gas industry, the Nigerian Military Government in 1996 enacted the Marginal Fields Decree which allows farming out of marginal fields¹⁴ from existing concessions, abandonments, relinquishments and surrenders. The Marginal Field Decree entitles the federal government to recover marginal fields from their original holders and allocate them to marginal field bidders. The Department of Petroleum Resources (DPR) issued the following guidelines as the criteria for allocating marginal fields:

- i. Existing holders of concession, excepting indigenous oil companies are excluded from applying or acquiring participatory interest in any marginal field;
- ii. Indigenous oil corporations holding concessions are to relinquish their existing blocs in order to be considered;
- iii. Marginal fields may be farmed out¹⁵ only to citizens of Nigeria having a company incorporated under the laws of Nigeria. However, such citizens must be qualified and knowledgeable in the oil industry;
- iv. The Nigerian entrepreneur may have a foreign technical partner who must not have more than 40% equity participation.

Fiscal incentives for marginal fields operators include:

¹¹ See Lowenfeld A.F, *International Economic Law* (Oxford University Press, London, 2008) 1st ed. P. 556

¹² See section 4 of the Local Content Act.

¹³ Ibid section 5

¹⁴ Technically a marginal field is an oil reserve or field, which due to geologic, geographic and technological inhibitions is deemed not viable for development by the lease owner. It is also a field which cannot produce up to 10,000 bpd – the NNPC's benchmark for commercial crude oil production.

¹⁵ Though oil field owners can farm out, they can't farm in.

- i. Payment of 65.75% PPT against 85.5% paid by international oil corporations;
- ii. Reduced royalty rates of 20% for land and swamp concessions, 18.5% for territorial waters and continental shelf up to 100 metres water depth; 16.65% for increase beyond 100 metres water depth to 200 metres.
- iii. Permission for indigenous prospecting companies allocated marginal fields in areas from 201 to 500 metres, 501-500 metres, 801-1000 metres, and in excess of 1000 metres depths to pay royalty at 12, 8, 4 and 0% respectively.

On their face, the above legal provisions are anything but fair to foreign investment. Put crudely, they are discriminatory against foreign investment contrary to the requirement of international economic law captured above. However, looked at dispassionately and without prejudice, such discrimination is excusable on consideration that foreign investment in the Nigerian oil and gas industry had a head start that has given it economic of scales over and above indigenous oil companies. Unless the competition scales are slanted in favour of indigenous oil companies in the manner sought to be done by the Local Content Act, and the Marginal Fields Decree, such companies stand no chance in the competition.

Be the above as it may, provisions such as those in the Local Content Act, and the Marginal Fields Decree are driven by national interest objectives, which exist in every nation. Every nation depending on its national economic objectives make laws that advance such objectives though such laws may be discriminatory of other nations. For instance, in the wake of the 2008 economic meltdown in the United States of America, the U.S government seeking to save distressed American companies enacted laws that offered stimulus packages that were meant to make them survive the meltdown and not go under.¹⁶ Of course the U.S government did not offer similar packages to foreign companies operating in the U.S. Such action by the U.S government was no doubt discriminatory against foreign companies in that country, but they lived with the discrimination because they understood it to be driven by the country's national economic objectives. By the same token, provisions of the Nigerian Local Content Act, and the Marginal Fields Decree, should be appreciated by international oil corporations in the country as driven by the national objectives of the Nigerian government to have more Nigerian oil companies participating in the country's oil and gas industry.

Also providing for national treatment, on admission of foreign investment by a nation, the North America Free Trade Agreement (NAFTA), provides that the host state shall not require international investment to fulfil any of the six performance requirements international investments are often subjected to. Accordingly, NAFTA provides that a host state shall not require international investment to:

- i. Achieve a particular level of percentage of local content or give preference to products or services of domestic content or source;

¹⁶ See the 2009 American Recovery Reinvestment Act

- ii. Limit imports in relation to a particular volume of production, export or foreign exchange earnings;
- iii. Export a particular level or percentage of products or services;
- iv. Limit sales in the host's territory in relation to a particular volume or value of production, exports or foreign exchange earnings;
- v. Transfer technology to a national company in the host's state; or
- vi. Carry out a particular type, level or percentage of research and development in the host state.¹⁷

Contrary to the above provisions of NAFTA, several agreements between NNPC representing the Nigerian government contain provisions that conflict with the above stipulation. Joint Venture agreements, Production Sharing Contract agreements between NNPC representing the Nigerian government and IOCs, for instance, often require the IOC NNPC is contracting with to achieve a particular level of percentage of local content or give preference to products or services of domestic content or source.¹⁸ Such stipulations are pursuant to national interest objectives, which override provisions such as those captured above.

No doubt, foreign investment in the oil sector as indeed in any other sector of the Nigerian economy admitted into Nigeria will not like provisions that subject them to performance requirements such as those prohibited by NAFTA. However, the requirements being stipulated pursuant to the achievement of Nigeria's national developmental objectives, should be appreciated by international oil corporations operating in the country bearing in mind that their home nations also have national developmental objectives which they used their national laws to achieve.

Be the above as it may, Nigeria being not a member of NAFTA is not obliged to give effect to NAFTA provisions. It is a sovereign state outside NAFTA that is entitled like any other nation to pursue its enlighten and legitimate national interest the best way it deems fit without let or hindrance by other states, and without apology.

Fair and equitable treatment

The second rule for the protection of foreign investment is *fair and equitable treatment*. This rule falls out of the first. An international investment by this rule is required to be admitted into the territory of a host state on conditions of fair and equitable treatment. Fair and equitable treatment means the host state should not discriminate against foreign capital on the basis of nationality or origin in relation to such matters as access to local courts and administrative bodies, applicable taxes and administration of government regulations. This rule was tested in *United Mexican States v. Metaclad Corporation*.¹⁹ In this case, the investor a Mexican firm in the U.S

¹⁷ See Lowenfeld A.F, International Economic Law, (pub. Oxford University Press, London, 2008) 1st ed. P. 556

¹⁸ See the Production Sharing Contract between NNPC and Statoil Nigeria Ltd p.15

¹⁹ (2001) BCSC 664

had received a permit from the American national government to construct a facility for disposal of hazardous wastes and had spent thirteen months and twenty million dollars constructing the plant when a local authority announced that its permission was required and would not be forthcoming. Meanwhile there were similar U.S. companies in existence in the country, and they came into existence by the same process the Mexican company did. An international tribunal set up to settle the dispute held that the treatment meted to the investor was unfair and cannot stand.

Ordinarily, by its nature, fair and equitable treatment is an irreducible minimum threshold of protection of foreign investment that every nation should be able to meet and not contest. A foreign investment admitted into any country should take it for granted that it would be accorded fair and equitable treatment by its host state. If a host cannot treat his guest better than members of his household, he should at least treat him equally with them. IOCs operating in Nigeria are entitled to such treatment.

Full protection and Security

The third rule for protection of foreign investment is full Protection and Security. Under this rule, host states are not only to refrain from attacking the facilities and personnel of the investor, but to defend the investor and his investment against attacks by others including for example rebel forces, insurgents and militants. For instance, in a case between the United Kingdom and Sri Lanka, the United Kingdom claimed that its shrimp farm in Sri Lanka was destroyed by military operations conducted by Sri Lanka security forces against installations reported to be used by Sri Lanka rebel forces. Following a hearing of the matter by an international tribunal, the tribunal held that the Sri Lankan government ought to have taken adequate precautionary measures to prevent destruction of the Shrimp farm. Having failed to take such precautionary measures, the Sri Lankan government was held liable to the Shrimp farm.²⁰

In Nigeria, the *Bowoto v. Chevron's case*²¹ brings to the fore the responsibility of the state to protect international investment domiciled in it. The facts of the case were that between May 25th and 28th, 1998, about 100 protesters from Bowoto community in the Niger Delta occupied a Chevron offshore drilling rig and construction barge located in the Niger Delta. The occupation of the barge was sequel to complaints against Chevron's regional business activities, which Bowoto community claimed had negative environmental and social impacts on it. The community claimed it has several times sought cessation of Chevron's operations, reparations, and cleanup to no avail. Whereupon, it embarked on the protest that led to the seizure and occupation of the corporation's barge. Thereupon Nigerian government security forces forcefully dislodged the community protesters from the barge. The community alleged that the

²⁰ See Lowenfeld A.F, International Economic Law, (pub. Oxford University Press, London, 2008) 1st ed. P. 556

²¹ See *Bowoto vs. Chevron* www.bowoto.com

security forces shot four protesters, killing two, capturing and torturing a fifth.²² It further alleged that on Chevron's claim that the protesters were kidnappers and extortionists who held 175 people hostage for three days, Nigerian government security forces launched an assault on the villages of Opia and Ikenyan, on 4th January, 1999, shooting civilians and setting buildings on fire.²³

All the above alleged acts of Nigerian security forces led the Bowoto community to institute a court action against Chevron in the United States of America where Chevron's parent company is. The community sued Chevron alleging that the corporation was instrumental to the action of the Nigerian government. It alleged that Chevron gave the Nigerian military forces assistance in the form of helicopters and sea trucks, which they used to dislodge its protesters from the barge. Indeed, that Chevron hired the security forces and helped them plan the attack on the villages in retaliation for the protesters' activities.²⁴ On these facts, the American Court held that Chevron was not liable for the acts of the Nigerian security forces. Though the court did not say so, it must have been a consideration in the mind of the court that Nigerian security forces doing what they did were carrying out the Nigerian government's duty to protect and secure foreign investment.

Be the above as it may, from the facts in *Bowoto v. Chevron*²⁵ it is clear that the experience of the Bowoto host community with Nigeria's government performance of its duty to protect and secure foreign investment was an unpleasant one, while that of Chevron no doubt was a pleasant one. However, caution needs be sounded that the Nigerian government in performing its duty of protecting and securing foreign investment should be wary of overstepping bounds to inflict tyranny on its own citizens as it apparently did in the Bowoto case. If it oversteps bounds, not only will a host community have an unpleasant experience with an international oil corporation polluting its environment, it will also suffer an unpleasant experience in the government's performance of its duty to protect international investment. It should always rivet in the mind of Nigerian government while performing its duty to protect foreign investment that it also has a duty to protect its own citizens, and if the two duties were to be ranked, the latter would be first.

Be the above as it may, while going too far to protect foreign investment in the Bowoto case, the Nigerian government does very little in the way of protecting foreign investment in other cases, going by reports of incessant kidnapping of staff of international oil corporations, sabotage and acts of vandalism and destruction of oil installations in the Niger Delta by so-called Niger Delta militants, and also going by the almost total lack of reprisals from the Nigerian government. Except for the cases of

²² Ibid

²³ Ibid

²⁴ Ibid

²⁵ Ibid

the Ogoni Four and Ogoni nine,²⁶ there are no cases of trial and conviction of any militant for acts of sabotage, vandalism and terrorism against international oil corporations in the Niger Delta. It was in part because of the impunity the militants operate in the region that made them alleged in the Bowoto case that Nigerian security forces that meted out reprisals were hired by Chevron. This meant the Nigerian government on its own was incapable of carrying out such reprisals.

Expropriation of Foreign Investment

The fourth rule for the protection of foreign investment is that on expropriation. The international investment protection rule on expropriation is provided by bilateral investment treaties. All bilateral investment treaties contain identical provisions on expropriation. They provide that expropriation is lawful and not inconsistent with international law if it is:

- a. Carried out for a public purpose;
- b. Non discriminatory;
- c. Carried out in accordance with due process; and
- d. accompanied by payment of prompt, adequate and effective compensation.

Though arising from bilateral treaties, the right of a nation to expropriation of foreign investment has become part of international law *jus cogens*.²⁷ By this fact, a nation has an established right under international law to expropriate foreign investment. The issue of how it may validly exercise this right is an issue separate and distinct from the right. It is to the separate and distinct issue of exercising the right that the conditions enumerated above attach. While the right to expropriate has become *jus cogens*, the conditions of exercising the right particularly prompt, adequate and effective compensation are yet to become so.

Prompt, adequate and effective compensation otherwise known as *the Cordell Hull formula*²⁸ are terms that came into force before the independence of most of the developing nations. Accordingly such states do not regard these terms as being the law on expropriation. For them, expropriation so far as it relates to the issues of prompt, adequate and effective compensation, should be governed more by the municipal law of the host state than by international law. Their position was captured by the United Nations General Assembly Resolution on Permanent Sovereignty over Natural Resources which provides that:

²⁶ The trial and conviction of the Ogoni 9, which led to their being hanged was largely seen as a charade because of the manner members of the Ibrahim Auta led Civil Disturbances Special Tribunal were handpicked and the manner the trial was conducted. There was no reason for constituting the tribunal to try an isolated case, which could have been tried by the conventional courts of the country. The constitution of such a tribunal was no doubt intended to guarantee the conviction of the Ogoni 9. See Independent Daily November 12th 2004 p.1

²⁷

²⁸ Cordell Hull was the American Secretary of State that coined the expression *prompt, adequate and effective compensation* in his diplomatic exchange of notes with his Mexican counterpart after the Mexican Revolution that led to the expropriation of American investments in Mexico.

Nationalization or expropriation shall be based on grounds or reasons of public utility, security or the national interest which are recognized as overriding purely individual or private interests, both domestic and foreign. In such cases, the owner shall be paid appropriate compensation in accordance with the rules in force in the state taking such measures in the exercise of its sovereignty in accordance with international law. In any case when the question of compensation gives rise to a controversy, the national jurisdiction of the state taking such measures shall be exhausted.

Later the United Nations Charter on Economic Rights and Duties of States declared that every state has the right to:

Nationalize, expropriate or transfer ownership of foreign property in which case appropriate compensation should be paid taking into account its relevant laws and regulations and all circumstances that the state considers pertinent. In any case where the question of compensation gives rise to controversy, it shall be settled by the domestic law of the nationalizing state or its tribunals unless it is freely and mutually agreed by all states concerned that other peaceful means being sought on the basis of the sovereign equality of states and in accordance with the principle of the free choice of means.²⁹

The above two United Nations Resolutions agreed on three critical issues viz:

- i. That it is the sovereign right of a state to expropriate or nationalise international investment;
- ii. That when a state expropriates foreign investment, it should pay appropriate compensation and not prompt, adequate and effective compensation; and
- iii. That the Calvo Doctrine³⁰ applies to controversies that may arise over payment of compensation.

Because it involves enormous amount of resources, and also because it is always driven by politics, expropriation is often attended by a lot of dispute and controversies. The vagueness and lack of precision of yet to be *jus cogens* international law conditions for valid expropriation also do not help matters. Except public purpose, which fairly is unambiguous, the other conditions that the yet to *jus cogens*

²⁹ See Resolution 523 of 1952

³⁰ The Calvo Doctrine is a foreign policy doctrine that jurisdiction in international investment disputes lies with the country in which the investment is located. The Calvo Doctrine thus prohibit diplomatic protection or armed intervention before local means of resolving an investment dispute are exhausted. An investor under this doctrine has no recourse but to use the local courts rather than that of his home state. As a policy prescription, the Calvo Doctrine is an expression of legal nationalism. The doctrine named after Carlos Calvo, an Argentine jurist, has been applied throughout Latin America and other parts of the world.

international law require to be met before or on exercising the right to expropriate are vague and imprecise. Because of the imprecise and ambiguous character of the other conditions, disputes have often trailed expropriation of international investment by national governments.

Beginning with the requirement that expropriation should be non discriminatory, it is quite difficult for an international oil corporation to establish that an expropriation by a national government was discriminatory or for the appropriating state to establish that it was non-discriminatory particularly when only one out of many international corporations is expropriated. Due process the other requirement for expropriation is a legal cum political expression that seeks to capture fluid and serial steps taken in the course of realizing expropriation. The quantum and quality of the serial steps that make for due process or that negate it are not easily certifiable or measurable. Prompt, adequate and effective compensation the last requirement for a valid expropriation is also not easily determinable. *Prompt* refers to the time payment is made. The requirement of prompt compensation dictates that payment should be made soon after the taking of a foreign investment. What is soon after is a moot point. *Adequate* refers to the amount of the compensation. Adequacy and inadequacy are often subjective issues. The expropriating state may claim that adequate compensation means the net book value³¹ of the investment, while the investor may claim it is the market value³² of the investment. Effective compensation refers to compensation in a readily convertible currency and not compensation in kind. Gold and diamonds may not be convertible currencies, but whether they may not be more effective compensation than the Nigerian naira or the Russian roubles leaves your guess as good as mine.

Be the above as it may, the above conditions for exercise of the right to expropriate being not *jus cogens*, dispute over their meaning or real import is not of much moment. *Jus cogens* on the issue of payment of compensation upon expropriation is payment of appropriate compensation and not prompt, adequate and effective compensation. This is what is of much moment in the experience of foreign investment with expropriation in Nigeria as indeed elsewhere.

The Murtala/Obasanjo regime nationalized Shell – BP allegedly on the ground that the British government proposed a change in policy favouring resumption of oil supplies to apartheid South Africa.³³ The expropriation of Shell BP though generated

³¹ The net book value is the value of an asset on the books of the company. For instance, suppose a company buys a machine with a five-year useful life for five thousand dollars. After one year the machine depreciates by 1,000 dollars. The company posts a 4,000 dollars net book value for the machine in its books. The problem with net book value is whether it reflects economic reality or is merely accounting convention. The 4,000 dollars net book value posted for the machine in its books, the machine may not realize in an auction. The net book value is a rough estimate and therefore has no mathematical exact value.

³² Market value is the price an asset will fetch in the market place. It is usually lower than the net book value of the asset.

³³ Genova, Ann, *The International Journal of African Historical Studies*, Vol. 43 No.1 p.17 - 27

a diplomatic row between Nigeria and Britain did not lead to litigation as happened in Libya's nationalization of Texaco or Iran's nationalization of Amoco.³⁴ The expropriation of Shell BP by the Nigerian government did not generate much row because the Nigerian government was disposed to paying appropriate compensation to owners of the expropriated international oil corporation. What is more, the expropriation was later reversed by the Nigerian government and shell has since returned to its original owners. Apart from Shell, there is no instance of nationalization of an international oil corporation by the Nigerian government. From all these the experience of international oil corporations with Nigeria on expropriation has been a pleasant one. Whether the pleasant experience of international oil corporations here referred to has been good for the Nigerian economy is a moot point.

All said and done, stabilization clauses are insurance covers for international oil corporations. The memorandum of understanding with host communities is another insurance cover. So is the international legal regime for the protection of foreign investors. While foreign investments enjoy these insurance covers, these concentric protection, host communities do not enjoy the insurance of corporate social responsibility or corporate environmental responsibility.

³⁴ Ibid p. 1 – 9, and p. 32 - 41

Corporate Environmental Responsibility and Corporate Social Responsibility of Oil and Gas Corporations

Corporate Environmental Responsibility

Corporate environmental responsibility of oil and gas corporations is their duty to prevent environmental pollution or degradation in the course of their operations. Where environmental pollution or degradation occurs as a result of an oil or gas corporation's operations, it has the corporate environmental responsibility to clean up or restore the environment to its original state.

There is nowhere corporate environmental responsibility of oil and gas corporations is posited in the manner presented in this text. However, deductive research and a summation of provisions of various environmental protection laws will produce the concept of corporate environmental responsibility of oil and gas corporations as a valid legal concept that imposes responsibility on international oil corporations no less than the more popular corporate social responsibility concept. Indeed, in most cases, oil and gas corporations come under corporate social responsibility only after failing to perform their corporate environmental responsibility. Put another way, if oil and gas corporations perform their corporate environmental responsibility, they will have less corporate social responsibility to perform.

Perhaps more than any other corporation in corporate Nigeria, the oil corporation, the international oil corporation in particular, is under a duty of corporate environmental responsibility to abstain from polluting or degrading the environment and where it fails to do so, to restore the environment to health after polluting or degrading it.

The story of the efforts of law to protect the environment from corporate pollution and degradation may be literally told using images of the howling wolves in the woods and the goose that lays the golden eggs¹: Moved by desire to make money

¹ A man and his wife owned a very special goose. Every day the goose would lay a golden egg, which made the couple very rich. "Just think," said the man's wife, "If we could have all the golden eggs that are inside the goose, we could be richer much faster."

and profit, oil and gas corporations, in particular international oil and gas corporations – the wolves howling in the woods, are out to mine oil from the environment – the goose that lays the golden egg.²

Corporate Environmental Responsibility of Oil and Gas Corporations under Nigerian and International Law

Nigerian Legal Provisions

Almost every Nigerian petroleum law contains provisions prohibiting oil corporations from polluting or degrading the environment in the course of their operations. Where oil corporations had been alleged to violate their corporate environmental responsibility, some of the statutory provisions that impose corporate environmental responsibility on corporations have been judicially tested through environmental litigation to determine the liability of corporations for violation of their corporate environmental responsibility to aggrieved litigants.

The Oil in Navigable Waters Act³ which domesticated in Nigeria the Convention for the Pollution of the Sea by Oil 1954 prohibits the discharge of crude oil, fuel, lubricating oil, heavy diesel oil or any mixture containing not less than 100 parts of oil into prohibited sea areas by Nigerian ships. Any ship that discharges the prohibited oils into the protected waters, the owner or master of the ship shall be guilty of an offence.⁴

Section 2 designates prohibited areas of the sea, and empowers the Minister of Transport to designate by order, other areas outside the prohibited areas for the purpose of protecting the coast and territorial waters of Nigeria from pollution by oil and to vary or exclude any excluded area.

It is not clear what the expression *to vary or exclude any excluded area* means. Does it mean that the Minister of Transport can by Regulations made by him turn a water body the Act prohibits pollution of by oil into one that may be so polluted? If that is the import of the provision, it is submitted that it has vested on the Minister wider powers than are usually vested on bodies charged with functions of making subsidiary legislation. Such a provision will place the Minister above the National Assembly thereby empowering him to usurp its functions. There is need for judicial pronouncement on the meaning of the expression under reference or its legislative amendment to remove its patent ambiguity.

Section 3 of the Oil in Navigable Waters Act makes the owner or master of the vessel, the occupier of a place on land, or the person in charge of the apparatus used for transferring oil from or to a vessel guilty of an offence if any oil or mixture

² "You're right," said her husband, "We wouldn't have to wait for the goose to lay her egg every day."

So, the couple killed the goose and cut her open, only to find that she was just like every other goose. She had no golden eggs inside of her at all, and they had no more golden eggs.

³ CAP 387 Laws of the Federation of Nigeria 1990

⁴ See section of the Oil in Navigable Waters Act.

containing oil is discharged into the whole of the sea within the seaward limits of the territorial waters of Nigeria and all other waters including inland waters which are within those limits and are navigable by sea going ships.

Section 4 of the Act provides for special defences to a charge under the Act. These defences include where:

- (a) Oil or mixture containing oil is discharged for the purpose of securing the safety of any vessel or cargo or for saving life;
- (b) The oil escaped in consequence of damage to the vessel and as soon as the damage occurred, reasonable steps were taken to reduce the escape of oil;
- (c) The escape or leakage is not due to any want of reasonable care by the person charged;
- (d) With regard to discharge or escape from a place on land, the discharge or escape was caused by the act of a person who was in that place without the permission of the occupier;
- (e) The oil was contained in an effluent produced by operations for the refining of oil;
- (f) It was not reasonably practicable to dispose of the effluent otherwise than discharging it into the waters of Nigeria;
- (g) All reasonable practicable steps have been taken for eliminating oil from the effluent; and
- (h) The discharge is permitted by statute, for instance, section 368 and 382 of the Merchant Shipping Act.⁵

The penalty for violating the above provisions of the Act ranges between twenty and two thousand naira fine. These, no doubt, are ridiculous fines that cannot deter offenders.

The Oil in Navigable Waters Act empowers the Minister of Transport to make regulations Nigerian ships to be fitted with such pollution prevention equipment and to comply with requirement for preventing or reducing discharge of oil and mixtures containing oil into the sea.⁶ The oil Terminal Dues Act⁷ essentially deals with discharge of oil at oil terminals in the process of loading oil into an oil pipe or some other oil carrier or offloading the oil from such carrier. The objective of this law is to ensure that oil is not discharge into the environment in the course of loading or offloading an oil bearing vessel. To this end, section 6 (2) of the Oil Terminal Dues Act provides that where oil or a mixture containing oil is discharged into any part of Nigeria's territorial waters from a pipeline or any apparatus used for loading and offloading of oil from a vessel, or as a result of operation for evacuating oils, the owner of the pipeline or apparatus or the operator in charge of the evacuation, as the case

⁵ CAP 337 Laws of the Federation of Nigeria 1990

⁶ See section 5 (1) of the Oil in Navigable Waters Act

⁷ CAP 126 Laws of the Federation of Nigeria 1990

may be, shall be guilty of an offence under section 5 of the Oil in Navigable Waters Act.

Pursuant to the 1969 Petroleum Act, DPR in 1981 issued the *Interim Guidelines and Standards on Monitoring, Handling, Treatment and Disposal of Effluent Oil Spills, Chemicals, Drilling Mud and Drilling Cuttings*. The Guidelines allowable limits of waste discharges into fresh water, coastal water and offshore areas of operation. Each operator must possess a minimum stockpile of oil spill control equipment, and have an oil spill contingency plan for the prevention and control of oil spills.

The Oil Pipelines Regulations imposed an obligation on oil corporations laying oil pipelines for the transportation of petroleum to use pipelines of a particular design and thickness to prevent leakage or rupture of pipelines leading to pollution of the environment by oil.⁸ The Oil Pipelines Regulations imposed further obligations on oil corporations to test an oil pipeline before transporting oil in it.⁹ This is to ensure the pipeline holds when subjected to the pressure of transporting oil by it.

The 2012 Petroleum Bill demands more corporate environmental responsibility from oil corporations than previous laws. It is understandable. This law made at a time environmental carnage oil operations has become more visible. This has led to environmental consciousness that is intolerant of such carnage. The Bill requires licensees and lessees to submit within three months of being granted a license or lease an environmental management plan to the Upstream Petroleum Inspectorate for approval.¹⁰ The environmental management plan shall contain the licensee's or lessee's environmental policy objectives and targets and commitment to comply with relevant laws, regulations guidelines and standards.¹¹ It shall also contain an assessment of the impact of the licensee's or lessee's operations on the environment and people. It shall contain an environmental awareness plan describing the manner the licensee or lessee intends to inform his employees of environmental risks of their operations and how such employees will avert those risks.¹² No chemicals shall be utilized for upstream operations unless the Inspectorate has granted a permit for it.¹³

The Bill provides that failure to submit an environmental management plan will lead to the license or lease being not granted.¹⁴ Where a licensee or lessee submits an environmental management plan but does not implement it, his licence or lease may be revoked.¹⁵

The Bill further provides that every licensee or lessee engaged in upstream and downstream oil operations shall manage environmental impacts in accordance with

⁸ See Reg.3 and 5 of the Oil Pipeline Regulations, 1995 made pursuant to the Oil Pipeline Act 1956

⁹ Ibid Reg.6

¹⁰ Ibid section 200 (1)

¹¹ Ibid

¹² Ibid section 200 (3)

¹³ Ibid section 200 (5)

¹⁴ Section 195 (1) of the Petroleum Industry Bill

¹⁵ Ibid section 219 (2)

its environmental management plan or programme approved by the Inspectorate or Agency, and as far as it is reasonably practicable, rehabilitate the environment affected by exploration and production operations by restoring the environment to its natural or pre-exploration and production state, or to a state that is in conformity with generally accepted principles of sustainable development.¹⁶

The licensee or lessee however shall not be liable for or be under an obligation to rehabilitate the environment where the Act adversely affecting the environment has occurred as a result of a sabotage of petroleum facilities, which also include tampering with the integrity of any petroleum pipeline and storage systems.¹⁷ The implication of this provision is that the environment on such occasion is without remedy.

The Act provides that a licensee or lessee with an oil prospecting license or oil mining lease shall in addition to any liability for compensation for damage done to the environment, be liable pay fair and adequate compensation for the disturbance of the surface of the land.¹⁸ By this provision, an oil prospecting licensee or an oil mining lessee, by merely disturbing the surface of the land without more, can be liable to the land owner in compensation. This means at all events a licensee or lessee is liable since he cannot conceivably carry oil prospecting or mining without disturbing the surface of the earth. What in such situation will be the quantum of compensation? It should be the quantum of the disturbance.

Before the Bill, the 1969 Petroleum Act provides that the holder of an oil exploration licence, oil prospecting licence or oil mining lease shall, in addition to any liability for compensation to which he may be subject under any other provision of the Act, be liable to pay fair and adequate compensation for the disturbance of surface or other rights to any person who owns or is in lawful occupation of the licensed or leased lands.¹⁹

The Petroleum Industry Bill provides that for the avoidance of doubt, the Upstream Petroleum Inspectorate and the Downstream Petroleum Regulatory Agency, shall in consultation with the ministry of environment, make regulations and issue directives specifically relating to the environmental aspect of the petroleum industry.²⁰ Every oil and gas company is required to comply with environmental, health and safety laws, regulations, guidelines or directives as may be issued by the federal ministry of environment, the Minister of Petroleum, the Upstream Petroleum Inspectorate or the Downstream Petroleum Regulatory Agency.²¹ Such companies are required to conduct their operations in accordance with internationally acceptable principles of sustainable development and inter-generational equity, to take a precautionary approach to the environment in their operations and encourage the use

¹⁶ Ibid section 293 (1)

¹⁷ Ibid section 193 (2)

¹⁸ Ibid section 296 (1)

¹⁹ See paragraph 37 of the first schedule to the 1969 Petroleum Act

²⁰ See section 289 (3) of the PIB

²¹ Ibid section 290

of environmentally friendly technologies for oil and gas exploration and exploitation.²²

The Act further provides that every licensee or lessee engaged in upstream and downstream oil operations shall manage environmental impact in accordance with its environmental management plan or programme approved by the Inspectorate or Agency, and as far as it is reasonably practicable, rehabilitate the environment affected by exploration and production operations by restoring the environment affected by exploration and production operations by restoring the environment to its natural or pre-exploration and production state, or to a state that is in conformity with generally accepted principles of sustainable development.²³

The licensee or lessee however shall not be liable for or be under an obligation to rehabilitate the environment where the act adversely affecting the environment has occurred as a result of a sabotage of petroleum facilities, which also include tampering with the integrity of any petroleum pipeline and storage systems.²⁴ The implication of this provision is that the environment on such occasion is without remedy.

Where there is a dispute as to the cause of an act that has resulted in harm to the environment, the licensee, lessee or any affected person shall refer the matter to the Agency for a determination and the determination of the Agency shall be final.²⁵ The Act here only provides for reference of the dispute to the Agency omitting the Inspectorate when in fact it is upstream that such disputes are likely to arise. This omission needs to be taken care of.

The Act provides that where an act that damages the environment is found to have occurred as a result sabotage, the cost of restoration and remediation shall be borne by the local government and state government within which the act occurred.²⁶ It is submitted that rather than the cost of environmental restoration and remediation being borne by the local government and state government, it should be borne by the host community as provided under section 118 (5) of the Bill which provides that where an act of vandalism, sabotage or other civil unrest occurs that causes damage to any petroleum facilities within a host community, the cost of repair of such facility shall be paid from the petroleum host community fund entitlements unless it is established that no member of the community is responsible.

The earliest Nigerian law that aims at checking the menace of gas flaring was the Petroleum Drilling and Production Regulations 1969 made pursuant to the Petroleum Act of the same year. Recognizing the harmful effects of gas flaring, this law provides for gas utilization in Reg. 43. The regulation provides that: 'Not later than five years after the commencement of production from the relevant area, the licensee or lessee

²² Ibid section 291 and 292

²³ Ibid section 293 (1)

²⁴ Ibid section 293 (2)

²⁵ Ibid section 293 (3)

²⁶ Ibid section 293 (4)

shall submit to the Minister any feasibility study, programme or proposals that he may have for the utilization of any natural gas, whether associated with oil or not, which has been discovered in the relevant area.

The Associated Gas Reinjection Act seeks to prohibit gas flaring by prohibiting gas flaring in certain cases, and limiting it in others.²⁷ The Act which provides in section 3 (1) that: 'subject to subsection 2 of this section no company engaged in the production of oil and gas shall after 1st January 1984 flare gas produced in association with oil without permission in writing of the Minister.'²⁸ Subsection 2 of the section provides that:

Where the Minister is satisfied after 1st January 1984 that utilization or reinjection of the produced gas is not appropriate or feasible in a particular field or fields, he may issue a certificate in that respect to a company engaged in the production of oil or gas (a) specifying such terms and conditions as he may at his discretion choose to impose for the continued flaring of gas in the particular field (b) permitting the company to continue to flare gas in the particular field if the company pays such sum as the Minister may from time to time prescribe for every 28.317 standard cubic meter of gas flared; provided any payment due under this paragraph shall be made in the same manner and be subject to the same procedure as ... payment of royalties to the federal government by companies engaged in the production of oil.

Section 4 imposes a concession forfeiture penalty on a licensee or lessee who breaches section 3 of the Act. In addition to forfeiture the Minister of Petroleum may order withholding of any entitlement of the offending licensee or lessee with a view of using the withheld entitlement to rehabilitate the environment affected by gas flaring.

Pursuant to the powers conferred on him by the Gas Re-injection Act, the Minister of Petroleum in 1984 made Regulations which provides that the issuance of a certificate by the Minister under section 3 (2) of the Associated Gas Re-injection Act for the continued flaring of gas in a particular field or fields shall be subject to one or more of the following conditions:

- (a) where more than 70% of the produced gas is effectively utilized or conserved;
- (b) where the produced gas contains more than 15% impurities which render it unsuitable for industrial purposes;
- (c) where ongoing utilization programme is interrupted by equipment failure provided that such failures are not considered too frequent by the Minister and that the period of any one interruption is not more than 3 months;

²⁷ See sections 3 and 4 of the Associated Gas Re-injection Act.

²⁸ The Minister referred to here is the Minister of Petroleum

(d) where the Minister orders the production of oil from a field that does not satisfy any of the conditions specified in the Regulations.

The above Regulations apply to Ministerial Certificates permitting gas flaring regardless whether payment is made under section 3 (2) the Gas Reinjection Act.

The Petroleum Industry Bill contains elaborate provisions on gas flaring. It provides that natural gas shall not be flared or vented after a date (the flare-out date) to be prescribed by the Minister in Regulations.²⁹ After the flare-out date, the Act goes on to provide that Gas shall not be flared in any oil and gas production operation, bloc or field, onshore or offshore, or gas facility such as processing or treatment plant except where a permit is granted.³⁰

The Act requires gas operators with flared gas resources to within six months of the commencement of the Act categorize all their flared gas resources (daily flared quantity, reserve, location, and composition) and submit this data to the Upstream Petroleum Inspectorate along with gas utilization plan for the gas they intend to utilize before the flare-out date.³¹

Against the sweeping prohibition of gas flaring after the flare-out date, the Act institutes a permit regime for gas flaring in permitted cases. It provides that the Minister may grant a permit of not more than one hundred days, or such longer period as may be approved by the Minister to flare or vent gas in cases of start-up, equipment failure, shut-down, safety flaring or due to inability of gas customer to off-take gas.³²

Any licensee or lessee who flares or vents gas without the permission of the Minister shall be liable to pay a fine which shall not be less than the value of the gas flared.³³ The Act further provides that a license or lease for the production of oil and gas shall not be granted to any applicant unless the application for such a license or lease is accompanied by a comprehensive programme of gas utilization or reinjection acceptable to the Minister.³⁴ The Minister shall not grant the license or lease unless he is satisfied with the applicant's gas utilization programme which is required to be in consonance with the Gas Master Plan, the Domestic Gas Supply Obligation and national policies as may be made by government from time to time.³⁵

The volume of gas flared from any facility engaged in petroleum operations shall be measured using the metering equipment specified from time to time by the Inspectorate.³⁶ Within three months from the flare-out date, each licensee or lessee

²⁹ See section 275 of the PIB

³⁰ *Ibid*

³¹ *Ibid* section 276 (1)

³² *Ibid* 277 (2)

³³ *Ibid* 277 (3)

³⁴ *Ibid* section 178

³⁵ *Ibid*

³⁶ *Ibid* section 179 (1)

shall install the metering equipment specified in the regulations on every facility from which gas is flared or vented.³⁷

After the flare-out date, any person or group of persons or community may lodge a documented report of gas flaring or venting with the nearest office of the Inspectorate.³⁸ The Inspectorate shall appoint an officer to receive and record reports of gas flaring.³⁹ The officer appointed by the Inspectorate to receive gas flaring reports shall within 48 hours of receiving a report inspect the facility gas is allegedly being flared, verify the authenticity of the report to determine the cause of the gas flaring, the date the gas flaring commenced and the volumes of gas flared or vented from the facility each day.⁴⁰ The officer shall submit his verification report to the Inspectorate within seven days of his verification.⁴¹ If the Inspectorate determines that the report of gas flaring is authentic and the flaring does not fall within a permit, it may impose a fine not less than the value of the gas flared or shut down the facility.⁴²

The Act provides that it shall be an offence to fail, refuse, or neglect to lodge a gas flaring report.⁴³ It is submitted that it should also be an offence for the Inspectorate to fail to verify a gas flaring report or to collude with the flaring offender to produce a false report.

It is worth noting that the Petroleum Industry Bill does not contain a cap and trade provision which would have allowed for trade in gas flaring between oil and gas companies that prevent gas flaring and those that cannot. The Act also does not contain a carbon capture and storage provision that would have required oil and gas industries to capture gas in the atmosphere and store it. This omission may be informed by the lack of requisite technological infrastructure in Nigeria to give effect to such provisions. Be this as it may, while the Nigerian state may lack technological infrastructure to give effect to provisions such as the ones proposed here, international oil corporations are not equally bereaved of such technology.

The Act provides specifically in respect of upstream gas flaring⁴⁴ that the lessee shall pay such gas flaring penalties as the Minister may determine from time to time.⁴⁵ The lessee shall install such gas flaring measuring equipment that will properly measure the quantity of gas flared by him.⁴⁶ As a condition for the grant of an oil prospecting license or oil mining lease, the licensee or lessee must pay a prescribed financial contribution to an environmental remediation Fund established by the

³⁷ Ibid section 179 (2)

³⁸ Ibid section 280 (1)

³⁹ Ibid section 280 (2)

⁴⁰ Ibid section 280 (3)

⁴¹ Ibid section 280 (4)

⁴² Ibid section 280 (5)

⁴³ Ibid section 281 (2)

⁴⁴ Upstream gas flaring takes place in the flow stations while downstream gas flaring takes place in the refineries.

⁴⁵ Section 201 (1) of the PIB/PIB

⁴⁶ Ibid section 201 (2)

Upstream Petroleum Inspectorate.⁴⁷ In determining the amount the licensee or lessee shall pay as financial contribution, the Inspectorate shall take into account the size of the licensee's or lessee's operations.⁴⁸ If the licensee or lessee fail to rehabilitate any environment his activities has damaged, the Inspectorate may use his contribution in the environmental remediation Fund to rehabilitate it.⁴⁹ The licensee or lessee must assess annually its environmental liability and adjusts its contribution to the remediation Fund accordingly.⁵⁰ If it fails to assess its liability accurately, the Inspectorate would do so for it and demand that it makes the proper contribution.⁵¹

International Legal Provisions

Internationally, corporate environmental responsibility has been evolving perhaps at a much faster pace than municipally. As far back as 1972, the United Nations Declaration on the environment recognized the role of business in sustainable development. The 1987 Brundtland Commission Report explicitly recognized the impact of international trade on the environment. In 1992 at the UN Conference on the Environment and Development, the UN Centre on Transnational Corporations again pushed for the responsibilities of transnational corporations to be supportive of sustainable development.

The first instance of corporate environmental responsibility directly tackled by an international conference was during the 1992 Rio De Janeiro Conference on the Environment. Declarations made at the Conference provide for *the polluter pays principle* popularly referred to as *Agenda 21*. Article 21 dubbed *Agenda 21* of the Declaration contains the Polluter pays principle. When the polluter pays either by cleaning up or rehabilitating the polluted environment or compensating victims of his environmental pollution or degradation, it performs its corporate environmental responsibility. Agenda 21 provided a framework for corporate environmental responsibility by acknowledging the importance for governments to encourage and promote corporate environmental management.

Under the legal framework of Agenda 21 and the Framework Convention on Climate Change, corporations are required to consider sustainability issues and to integrate sustainability considerations and concerns in their operations. Also at the 2002 Earth Summit on Sustainable Development in Johannesburg, South Africa, corporations were required to "promote corporate responsibility and accountability and the exchange of best practices in the context of sustainable development."⁵²

⁴⁷ Ibid section 203 (1)

⁴⁸ Ibid section 203 (2)

⁴⁹ Ibid section 203 (3)

⁵⁰ Ibid section 203 (4)

⁵¹ Ibid section 203 (5)

⁵² See Art. 4 of the 2002 Earth Summit Declarations

Over the years, several international initiatives on corporate environmental responsibility have led to the evolution of what may be termed pseudo-legal principles on corporate environmental responsibility. These principles include:

- i. **Transparency and disclosure:** Businesses should provide timely and accurate disclosure of their environmental impacts following the principle of materiality. This information has to be measured, verified, and then made public and easily accessible by all stakeholders.
- ii. **Environmental performance:** Businesses have to play an active role in environmental protection and in the sustainable use of natural resources. Their policies and practices have to aim at preventing pollution, implementing climate change mitigation and adaption, using resources sustainably and investing in environmentally friendly technology. The precautionary and polluter-pays principle need to underpin decisions made in this regard.

For these pseudo-legal principles to become full-fledged legal principles, there is need for a UN convention to declare them as such vide, for instance, a Convention on Corporate environmental Responsibility and Accountability. Such a convention will ensure that the activities of large corporations aligned with their environmental responsibility and accountability. This will scale up the practice of corporate environmental responsibility and will level the playing field for corporate operations, in the sense that bad practices would not be used as a competitive advantage by irresponsible businesses.

A UN Convention on Corporate environmental Responsibility and Accountability ensure the participation of governments, companies and civil society. Such a convention should build on existing corporate environmental responsibility frameworks, initiatives and policies developed at national and international levels.

Enforcement of the corporate environmental responsibility of oil and gas corporations in Nigeria is done mainly through the agency of the court. For this reason it is dealt with under chapter twenty seven of the text dealing with litigation.

Environmental protection clauses in oil and gas contracts

To ensure that corporations perform their corporate environmental responsibility, it is critical that environmental protection clauses should be inserted into oil exploration and production contracts between national oil companies such as NNPC with international oil corporations such as Shell. While some national oil companies insert these clauses in their exploration and production contracts, others do not. The clauses are provided in this text to impress on national oil companies that do not insert such clauses in oil exploration and production contracts between them and international oil corporations, the need to do so.

Compliance with domestic and international standards

Usually oil and gas exploration and production contracts contain a clause that the oil or gas corporation will in its operations comply with domestic and international environmental law or standards. Reference to domestic environmental protection law

is desirable from a public policy perspective. In most cases, domestic standards have been developed with local environmental conditions in mind. In many developing nations however environmental law is not well developed; where it is developed, the will and machinery to enforce it is lacking. In such nations, reference to domestic environmental protection law in oil contracts is not enough. Reference must be made to international industry standards which are higher and may cover specific issues not dealt with by domestic law. Be this as it may, *international industry standards, good oilfield practices, good production practices, generally accepted standards* often used in such clauses are vague, ambiguous and indeterminable terms that may not avail the nation inserting such terms much in the event of the IOC not giving effect to its obligation. To cure the vagueness of these terms, they should be defined.

Environmental Impact Assessment Clauses

Environmental Impact Assessments (EIA) and corresponding management plans have become a staple requirement for investment projects in many sectors. Unfortunately, environmental governance in petroleum producing countries commissioned by the World Bank found that “much of the emphasis of the EIA process appears directed towards the approval of oil and gas projects, rather than to a life cycle approach for minimizing environmental and social impact.”⁵³ Apart from environmental impact assessment done before the commencement of oil exploration and production, there should also be a post impact assessment done after oil exploration and production has impacted on the environment. A post impact assessment discloses the extent of the impact and environmental remediation measures to be taken to address the impact.

Clauses on Access to Protected Areas

Petroleum operations are particularly contentious when they are located, even partially, within wildlife reserves, parks, or areas of cultural or biological significance. NGOs have long argued that such areas should be off limits to the extractive industries, but most governments are not ready to forgo the potential economic opportunities that the exploitation of these areas for oil offers.

In Nigeria the law only forbids a licensee or lessee without consent of the Minister from cutting down protected or productive trees or from laying pipelines through venerated lands.⁵⁴ This by no liberal interpretation can be taken to mean prohibition of oil exploration and production in protected areas such as wildlife reserves, parks or areas of cultural or biological significance.

Oil exploration and production contracts between NNPC and IOCs like Nigerian law only forbids laying of oil pipelines in venerated or sacred places – a

⁵³ See World Bank, *Environmental Governance in Oil-Producing Developing Countries 1* (Eleodoro Alba ed., 2010), http://siteresources.worldbank.org/EXTOGMC/Resources/336929-1266963339030/eifd17_environmental_governance.pdf.

⁵⁴ See Reg. 18 (v) of the Petroleum Drilling and Production Regulations and section 15 of the Oil Pipelines Act

prohibition that may be interpreted as a prohibition against oil exploration and production in such places. In oil exploration and production contracts between NNPC and IOCs, this law is not often reflected in a clause that forbids oil exploration and production in such places. Except that legal provisions against oil exploration and production in such places are statutory, failure to include such legal provisions in oil exploration and production contracts could be fatal under the jurisprudential rule of the particular superseding the general.

In the event that a portion of the Contract Area is located within a natural reserve area or so-called venerated or sacred places, the contract should provide that the Operator shall deploy all necessary efforts to minimize the negative impacts on the natural reserves, or sacred places in accordance with generally accepted environmental practices in the international petroleum industry.

Clauses on Access to Water & Other Natural Resources

Petroleum operations require the use of natural resources like water in their construction phase. Such operations require significant amounts of water and electricity throughout their operation. While many operations are self-sufficient in terms of energy supply, natural resources like water need to be obtained within or outside the contract area.

From an environmental and community rights perspective, as well as from an economic-development perspective, it is disturbing that many governments appear to focus solely on the potential revenue they can obtain from petroleum production and are willing to give away other valuable natural resources under the terms of oil and gas contracts. For example, Article 27.8 of Mozambique's 2007 Model concession contract provides for the right of the investor to drill for and have the free use of water and impound surface waters.⁵⁵ In Nigerian oil and gas exploration and production contracts, there is no provision at all on the use of water by oil exploration and production corporations. This means oil corporations are entitled to use Nigerian water resources free of any charge. Oil corporations entitlement to free use of water resources reflect the position of Nigerian oil and gas law which entitles oil corporations to free and unhindered access to water in the course of oil exploration and production. The law being thus, Nigerian oil exploration and production contracts can only contain a clause requiring oil corporations to pay for the use of water if the law is amended to stipulate so.

Like the case is with Nigeria, most exploration and production contracts are completely silent on the issue of access to natural resources. Some subjects the right of the contractor to use water to the approval of the Minister. For example, a 1994 contract from Ethiopia states that the contractor shall "have the right, subject to the

⁵⁵ Gov't of the Republic of Mozambique, Exploration and Production Concession Contract, art. 27.8 (2007) (Mozam.), <http://www.inp.gov.mz/content/download/192/790/file/Mozambique%20Model%20EPC-Public-April%202007.pdf> (last visited Apr. 2, 2011).

approval of the Minister, to use water in the Contract Area for operational purposes, but the Contractor shall not deprive any land, domestic settlement or livestock watering place of the water supply to which they are accustomed.” Better than the Ethiopian and Nigerian situation, a 2008 Model PSC from Bangladesh goes a step further by requiring that the contractor pay for natural resources, such as water, that it utilizes.⁵⁶

Clauses on Gas Flaring

Many oil and gas contracts appear lenient on the issue of gas flaring. For example, the Bangladesh 2008 PSC provides that: ‘any associated natural gas...which the Contractor does not consider possible to recover economically shall be offered to Petrobangla (Bangladesh national oil company) without any payment to the Contractor...To the extent that Petrobangla does not so take such Associated Natural Gas, the Contractor may flare such Associated Natural Gas provided that such flaring is included in the Development Plan submitted. Although this clause gives priority to utilization of the resource, there is no requirement for the gas to be re-injected into the ground if it is not taken by the state-owned oil company.

A Production Sharing Agreement between Sonangol (the Angolan national oil company) and Texaco Exploration allows for flaring only if it is authorized by the government. A Ugandan 2004 PSC agreement follows this model, but includes the caveat that the government’s consent “shall not be unreasonably withheld or delayed.”⁵⁷

In Nigeria, though the law prohibits gas flaring in the course of oil production, this legal position is not reflected in oil exploration and production contracts between NNPC and IOCs. Such contracts should reflect the law in the country.

The most stringent clauses, found in only a few oil exploration and production contracts, restricted flaring to cases of an emergency or for safety reasons. This is recommended for Nigeria considering the scourge of gas flaring in the country.

Clauses on Responding to Emergencies and Accidents

In 2008, thirty-two companies in the International Association of Oil and Gas Producers reported 2,978 spills resulting in the release of 18,266 tons of oil into terrestrial and marine environments.⁵⁸ Spills, accidents and emergencies in the oil and gas industry have the potential to occur and should be planned for. As such, separate from EIA, an emergency response plan should be required from the contractor.

⁵⁶ Bangladesh Oil, Gas, & Mineral Corp., Model Production Sharing Contract, art. 9.2 (2008) (Bangl.), <http://www.petrobangla.org.bd/MODEL%20PRODUCTION%20SHARING%20CONTRACT%202008-FEBRUARY.pdf>

⁵⁷ Draft Production Sharing Agreement for Petroleum Exploration, Development and Production in the Republic of Uganda by and Between The Government of the Republic of Uganda and Heritage Oil and Gas Limited, art. 19.3 (Jan. 27, 2007) (Uganda) http://www.platformlondon.org/carbonweb/documents/uganda/leaked_Uganda

⁵⁸ www.oilspill.com

Some oil and gas contracts also cover three additional elements in respect of emergencies: notification, response, and consequences for failure to respond. In some oil and gas contracts, notification is limited to the contractor appraising the government of the situation, but not the local community or the broader public. In some contracts terms of the response are often vague; for instance, it is often provided that *the operator shall take prudent steps*.

In Nigerian oil and gas exploration and production contracts, there are no clauses on the responsibility of oil corporations responding to emergencies and accidents. This perhaps explains the lackadaisical attitudes of international oil corporations operating in the country to oil spills such as that in Bodo community in 2008.⁵⁹

In some jurisdictions however, oil exploration and production contracts do stipulate that in the event the contractor did not act promptly to respond to an emergency or accident, the government had the right to mount its own response and charge the contractor for expenses that it incurred in doing so.

Clauses on Liability, Indemnity, & Insurance

Issues of liability for environmental damage can be complex, especially when multiple parties, including state-owned enterprises, are involved in petroleum production. Contracts, therefore, should have provisions that are explicit about *who* is to be liable for *what* and to *whom*. The issue of *who* depends somewhat on the form of the contract. Generally, however, it is the contractor, operator or concessionaire (the IOC) who will be liable, except in cases where fault can be directly attributed to the state or state-owned enterprise. If there is more than one contractor or operator involved in the project, then there should be a clause that stipulates that they are jointly and severally liable. On the issue of to *whom* the contractor or operator is liable, he is likely to be liable to the state.

An additional issue closely related to liability and indemnity is the requirement for the contractor or operator to have insurance coverage. This clause should specify that insurance would cover *pollution* or *environmental damage*. One potential problem with both liability/indemnity and insurance clauses is that the term *pollution* is quite narrow and does not cover all of the various environmental impacts from oil and gas operations.

Clauses on Decommissioning & Remediation

When an oil operation reaches the end of production, a number of costly activities must be undertaken. The extent to which decommissioning is dealt with in contracts depends somewhat on the contractual relationship between the parties and the expected life of the project. Under some arrangements, states retain ownership over production facilities and may continue operations after the termination of the

⁵⁹ See chapter thirty of this text.

contract. However, even in such instances, there may be contractual provisions covering decommissioning of installations that are not destined to be taken over by the state.

Clauses on decommissioning and remediation found in oil exploration and production contracts are generally lacking in detail. For example, a 1997 PSC agreement from Benin Republic states that:

At the end of the Contract, in any other situation than an abandonment case, the Contractor must take measures according to Good Practices in the Oil Industry to restore the environment and the sites where the Petroleum Operations have been performed to their original state on the Effective Date of the Contract, taking into account rules of abandonment procedure.

Although the above provision appears quite strict, as it suggests that sites should be restored to their *original state*, it is weakened by the generic reference to good oilfield practices. In addition to an absence of guidelines, there are obviously strong incentives for some companies to *cut and run* or to conduct only superficial remediation to minimize costs. One method for ensuring that decommissioning and remediation are carried out to plan is to use a financial mechanism such as a performance bond or reserve fund. Tanzania is an example of a country that has set up such a regime in its 2008 PSC model.

Corporate Social Responsibility

Corporate social responsibility has been broadly defined as a form of corporate self-regulation by which a business ensures it complies with the spirit of the law, ethical standards and international norms.⁶⁰ For this text, corporate social responsibility carries the popular meaning of the duty of an international oil corporation to provide pipe-borne water, light, schools, hospitals and even employment of qualified host communities' indigenes. By this, oil corporations are required by corporate social responsibility to do things that further the social good of their host communities, which things may be beyond the financial interest of the corporation, and in some cases beyond what the law strictly requires from the corporation. Oil corporations are by the requirements of corporate social responsibility seen as artificial citizens of their host communities. As such citizens, they owe their host communities obligations to advance and promote their welfare just as natural citizens in the form of human beings do. Corporate social responsibility in this sense may be referred to as corporate conscience, corporate citizenship, social performance or sustainable responsible business.

There is no Nigerian statute that provides for corporate social responsibility for international oil corporations in the form expressed above. What various Nigerian

⁶⁰ www.investopedia.com/terms/c/corp-social-responsibility

petroleum statutes provide for is corporate environmental responsibility, not the provision of social amenities to host communities which corporate social responsibility is popularly understood to mean. This lack of law no doubt precludes host communities in the Niger Delta from asserting claims of corporate social responsibility against international oil corporations operating in the region on the basis of statutory provision. It is only in oil production contracts entered into between international oil corporations and the Nigerian National Petroleum Corporation (NNPC) that corporate social responsibility requiring corporations to provide certain amenities to host communities is often provided for. For instance, a Production Sharing Contract between NNPC and an IOC provides that the IOC shall:

Prepare and carry out plans and programmes for industrial training and education of Nigerians for all job classifications with respect to petroleum operations in accordance with the Petroleum Act...

Give preference to such goods, which are available in Nigeria or services rendered by Nigerian nationals, provided they meet the specifications and the standards of the goods and services required.

Apart from these contractual provisions, international oil corporations sometimes enter into Memorandums of Understanding (MoUs) with host communities under which they pledge themselves to corporate social responsibilities. Shell Petroleum Development Corporation (SPDC) Nigeria Ltd tags its Memorandum of Understanding Global Memorandum of Understanding (GMoU). The Corporation enters into GMoU with a group or a cluster of host communities based on local government, clan or historical affinity lines usually based on advice by the relevant state government. The GMoUs bring communities together with SPDC, representatives of state and local governments and non-profit organizations such as development NGOs in a decision-making committee called Cluster Development Board (CDB). Under terms of a GMoU, the community decides the development it wants while SPDC on behalf of its joint venture partners provide secured funding usually for five years ensuring that the community has stable and reliable finances to execute its development plan.⁶¹ By Joint Venture or Production Sharing Contract agreement provisions, the cost of corporate social responsibility is not part of operating cost an IOC is entitled to recover before profit oil is shared between the parties.

GMoUs represent a significant shift in approach by SPDC that places more emphasis on corporate social responsibility, transparent and accountable processes, regular communication with host communities, sustainability and conflict prevention. If well handled, MoUs can be the panacea to recurrent conflicts between international oil corporations with host communities in the Niger Delta. In recent

⁶¹ www.shell.com.ng

times, most of the projects executed by SPDC pursuant to its corporate social responsibility are projects executed pursuant to GMoUs, the international oil corporation executed with host communities in the Niger Delta.

On November 3rd 2011, the Managing Director of SPDC disclosed at a sustainable development exhibition in Abuja that the Corporation in only 2010 spent nine billion naira on community development projects.⁶² If the claim of the SPDC's Managing Director is true, as it is likely to be since no Niger Deltan has controverted it, it means the experience of some host communities in the Niger Delta with performance of corporate social responsibility by international oil corporation operating in the region has been good.

Under the Niger Delta AIDS Response (NiDAR) project, SPDC works with host communities, national and state agencies for control of AIDS to control the spread of the epidemic in the region. The role of SPDC in the project is to finance the project by purchase of retroviral drugs and organization of public awareness campaigns.⁶³

From available records, both the Niger Delta Development Commission (NNDC) and SPDC execute projects such as health centres, link roads, shore protection and water projects in different communities of the Niger Delta. A 2005 – 2011 research, showed that NNDC executed 29 host community projects, while SPDC executed 31 projects in Bayelsa state alone.⁶⁴ These projects were documented and x-rayed for quality and their quality were largely satisfactory on completion although the same could not be said of maintenance.⁶⁵ That in Bayelsa state alone, SPDC could execute 31 community projects within seven years is evidence of performance of its corporate social responsibility in the Niger Delta.

As Shell the dominant international oil corporation operating in the Niger Delta performs its corporate social responsibility in various communities of the region, Mobil, Chevron, Total and other international oil corporations to a lesser extent also claim to be performing their own corporate responsibility in various communities of the Niger Delta. Why then does the Niger Delta remain restive? Is it a case of Niger Deltans being greedy, implacable or fastidious? Though there is a bit of some of these tendencies in the people of the region, environmental pollution and degradation through gas flaring in about 257 flow stations, oil spills such as that which took place in 2008 in Bodo community in Gokana Local Government of Rivers state,⁶⁶ largely overwhelm the performance of corporate social responsibility by international oil corporations thereby making the impact performance of their corporate social responsibility not felt by the beneficiary communities. Also failure by international oil

⁶² Ibid

⁶³ See *Guardian* newspaper 9th August 2009 p.17

⁶⁴ Olumi J.O, Impact Assessment of Rural Development Projects in the Niger Delta: A Case of Niger Delta Development Commission and Shell Petroleum Development Company (2005 – 2011)

⁶⁵ Ibid

⁶⁶ See front page of *Vanguard* newspaper 1st December 2013

corporations to maintain completed projects in a top functional state, and failure to complete projects both help to generate disquiet in the region.

It was reported on the front page of the *Vanguard* newspaper of 28th November, 2013 that ten communities in Diebiri and Gbamaratu kingdoms in Warri south-west local government area of Delta State were at loggerhead with SPDC Nigeria Ltd and the Nigerian Gas Company (NGC) over a Memorandum of Understanding in respect of new oil blocs acquired from the company by an oil consortium and failure of the latter to electrify the communities two years after wiring was completed. Diebiri kingdom in a protest letter signed by its chairman Hon. Samuel Ako and addressed to the Managing Director of SPDC, threatened to impede the smooth operations of the Corporation at its Batan flow station and other oil fields in its locality unless the electrification project is completely executed. Recourse by Diebiri community to threats and intimidation instead of court action raises the question whether MoUs such as the one SPDC enters into with host communities in the Niger Delta are legally enforceable. It may be submitted with less risk of being legally unsound that if an MoU is cast in the form of a valid and binding agreement, there is no reason any party aggrieved by its violation by the other party cannot approach the court for relief.

Be the above as it may, It is clear from the protest of Diebiri kingdom under reference that instead of going to court to ventilate its grievances over breach of the MoU thereby testing its legal enforceability, the community intended to resort to acts of vandalism and terror tactics to ensure implementation of the MoU. Such visceral response to the failure of SPDC to fully implement the MoU is not only unhelpful to the development of legal jurisprudence on enforceability of MoUs on corporate social responsibility of international oil corporations, but unhelpful to the sustainability and development of the oil industry in the Niger Delta and by extension in Nigeria. Be this as it may, the knee jerk response of Diebiri community is not unconnected with the loss of confidence in the Nigerian judiciary by host communities in the Niger Delta, and indeed by most ordinary Nigerians. But for such loss of confidence, there is no reason why a host community having what looks like a legally enforceable MoU, should not resort to court action if, like Diebiri community, it is dissatisfied with the performance of corporate social responsibility undertaken by an international oil corporation in such MoU. But for loss of confidence in the judiciary, rather than resort to acts of vandalism, violence and terrorism as Diebiri community threatened, a host community with a right to corporate social responsibility founded on what looks like a legally binding MoU should ventilate its grievances in a court of law and by doing so spare the nation economic and human loss, environmental pollution and degradation that always accompany acts of sabotage and vandalism on oil installations.

From the report of the *Vanguard* newspaper on Diebiri and Gbamaratu kingdoms, it may be that the experiences of the two communities with performance of corporate social responsibility by SPDC the dominant international oil corporation operating in the Niger Delta has not been a pleasant one. Also from the spate of

vandalization of oil pipelines, kidnapping of international oil corporations personnel and other acts of brigandage against international oil operators in the Niger Delta, it is evident that though international oil corporations do perform corporate social responsibility to host communities in the Niger Delta, the host communities are saying what the international oil companies are doing is not enough.

In Nigeria, sometimes when host communities make a case for International oil corporations to provide them with such social amenities as water, light, schools and hospitals, oil corporations would say such is not their responsibility. They will argue that they pay tax to the Nigerian government and it is therefore the responsibility of the government to provide such amenities to their host communities. On the face of it, an international oil corporation making such a case against a claim for corporate social responsibility by a host community no doubt has a meritorious case. However, looked at deeper, the case of the oil corporation begins to lose some of its merit. In most cases oil corporations operating in the Niger Delta do not always take the necessary care needed to avoid oil spillage or gas flaring which pollute the environment. Corroded pipelines, equipment failure and poorly maintained infrastructure all lead to oil spills that pollute the environment. If lack of care by international oil corporations leads to environmental pollution, the lives of people in such environment no doubt will be made worse off, and they would be wont to press for performance of corporate social responsibility by the oil corporation than if such pollution did not occur. Taxes paid by oil corporations to the Nigerian government do not cover pollution that made host communities to demand for the performance of corporate social responsibility and therefore cannot be used to meet such demands. Environmental pollution apart, the relative prosperity of international oil corporations compared to the degrading poverty and squalor of oil host communities require international oil corporations to part with what may be term *conscience money*⁶⁷ to host communities vide performance of corporate social responsibility.

Be the above as it may, international oil corporations are largely able to shirk their corporate social responsibility in the sense defined in this text to oil communities in the Niger Delta due to lack of a statutory legal provisions requiring them to do so. If there were such legal provisions, they will establish a broad and general basis of corporate social responsibility against oil corporations, which they cannot easily evade. Stipulations of corporate social responsibility in oil production contracts such as the one between NNPC and international oil corporations are special provisions host communities may not even be aware of and so cannot take advantage of. Where a host community knows of such provision, it may be precluded from enforcing it by privity of contract. NNPC that can enforce such provision may be hamstrung from doing so by considerations of joint venture liabilities that will require it to contribute

to the performance of the corporate social responsibility by the international oil corporation.

Enforcing either corporate environmental responsibility or corporate social responsibility against international oil corporations requires their regulation. Legal regulation of multinational corporations however, is generally difficult because they are not under the control of any one jurisdiction. Rather, they are subject to multiple legal systems, including that of the country of their corporate headquarters as well as those of the countries they operate. There is no international oversight body to regulate multinational corporations, or an international forum suits may be brought against them. It can be difficult for domestic courts to hold multinational corporations responsible for jurisdictional reasons or because the particular government lacks the legal infrastructure to impose liability. An example of a jurisdictional shortcoming in the United States is the difficulty of piercing the corporate veil. It can be extremely difficult to hold a parent company liable for acts committed by its subsidiary. *Bowoto v. Chevron Corp.* is an example of the difficulties of successfully suing multinational corporations for alleged environmental pollution.

Offshore litigation is a very expensive exercise both for the aggrieved host communities and the oil companies. For the aggrieved host communities, travelling expenses, hotel accommodation and feeding expenses can be quite staggering. For the oil companies, custodian interviews can be money and time consuming. Vandalization of pipelines, oil theft, kidnapping of oil workers are equally unhelpful. Pipelines vandalization in particular is like cutting one's nose to spite one's face. In the long run, such act does more harm to the perpetrator than the person the acts target.

To some extent corporate social responsibility is always provided for in oil exploration and production contracts between NNPC and IOCs. Such provision generates a contractual forum or means of regulating IOCs. Unlike corporate social responsibility however, corporate environmental responsibility in the form of an indemnity clause by which an IOC undertakes to indemnify NNPC from consequences of the IOC's negligence or recklessness is not always included in such agreements.

It is imperative that all PSC and JV agreements between NNPC and international oil corporations should provide that the Contractor or operator shall defend and hold NNPC harmless from damages and losses caused to third parties in consequence of the Contractor's negligence or wilful misconduct in the performance of the contract. This is a very good provision that should be inserted into any operational contract between NNPC and IOCs. Not only will such provision regulate the operations of the IOC it will insulate NNPC from numerous law suits host communities bring against oil corporations and NNPC is required to fund because of Joint Venture or PSC agreements between the two.

NNPC is fortified by paragraph 39 of the first schedule to the 1969 Petroleum Act to so stipulate. Paragraph 39 of the first schedule to the 1969 Petroleum Act provides that the holder of any licence or lease to which this Schedule applies shall at all times indemnify

and keep harmless the Federal Government, the Minister and every officer in the civil service of the Federation or the States (and their agents) against all actions, costs, charges, claims and demands howsoever which may be made or brought by any third party in relation to any matter or thing done or purported to be done in pursuance of this Act. No doubt JVs and PSC agreements are things done pursuant to the Act. Litigation is a third party claim, IOCs should indemnify NNPC representing the federal government and the Minister of Petroleum from. All said and done it is not clear if oil corporations operating in the Niger Delta do proper cost-benefit analysis of pollution of the Niger Delta. It is however clear that the complicit Nigerian state does no cost-benefit analysis of its failure to check the excesses of the OICs in polluting the Nigerian environment.

PART D

Downstream Oil and Gas Issues, Law and Policy

Refining of Petroleum and Processing of Gas

Petroleum Refining

The modern process of refining probably started in 1847 with the process to distil kerosene from petroleum invented by James Young. James Young noticed a natural petroleum seepage in the Riddings colliery at Alfreton, Derbyshire from which he distilled a light thin oil suitable for use as lamp oil, at the same time obtaining a thicker oil suitable for lubricating machinery. In 1848 Young set up a small business of refining the crude oil.

Young eventually succeeded, by distilling cannel coal at a low heat, in creating a fluid resembling petroleum, which when treated in the same way as the seep oil gave similar products. Young found that by slow distillation he could obtain a number of useful liquids from crude oil, one of which he named *paraffin oil* because at low temperatures it congealed into a substance resembling paraffin wax.

Petroleum refining processes are chemical engineering processes and other facilities used in petroleum refineries to transform crude oil into useful products such as liquefied petroleum gas (LPG), gasoline or petrol, kerosene, jet fuel, diesel oil and fuel oils. Petroleum is refined and separated, most easily by boiling point, into a large number of consumer products from gasoline (petrol) and kerosene to asphalt and chemical reagents used to make plastics and pharmaceuticals.^[7] Petroleum is used in manufacturing a wide variety of materials.

Petroleum refineries are very large industrial complexes that involve many different processing units and auxiliary facilities such as utility units and storage tanks. Each refinery has its own unique arrangement and combination of refining processes largely determined by the refinery location, desired products and economic considerations. There are most probably no two refineries that are identical in every respect. Some modern petroleum refineries process as much as 800,000 to 900,000 barrels per day of crude oil, while some as low as 100, 000 to 150,000 b/pd.

Prior to the nineteenth century, petroleum was known and utilized in various fashions in Babylon, Egypt, China, Persia, Rome and Azerbaijan. However, the modern history of the petroleum industry is said to have begun in 1846 when Abraham Gessner of Nova Scotia, Canada discovered how to produce kerosene from coal. Shortly thereafter, in 1854, Ignacy Lukasiewicz began producing kerosene from hand-dug oil wells near the town of Krosno, now in Poland. The first large petroleum

refinery was built in Ploesti, Romania in 1856 using the abundant oil available in Romania.

In Canada, the first oil well that led to limited refining to extract oil was drilled in 1858 by James Miller Williams in Ontario. In the United States, the modern history of the petroleum industry began in 1859 when Edwin Drake found oil near Titusville, Pennsylvania which like the case in Canada led to limited refining to extract kerosene. The industry grew slowly in the 1800s, primarily producing kerosene for oil lamps. In the early twentieth century, the introduction of the internal combustion engine and its use in automobiles created a market for gasoline that was the impetus for fairly rapid growth of the petroleum refining industry. The early finds of petroleum like those in Ontario and Pennsylvania were soon outstripped by large oil "booms" in Oklahoma, Texas and California.

Prior to World War II, in the early 1930s, most petroleum refineries in the United States consisted simply of crude oil distillation units (often referred to as atmospheric crude oil distillation units). Some refineries also had vacuum distillation units as well as thermal cracking units such as visbreakers (viscosity breakers, i.e., breakers that break units to lower the viscosity of the oil). The driving force for that growth in technology and in the number and size of refineries worldwide was the growing demand for automotive gasoline and aircraft fuel.

In the United States, for various complex economic and political reasons, the construction of new refineries came to a virtual stop in the 1980s. However, many of the existing refineries in the United States have revamped many of their units and/or constructed add-on units in order to: increase their crude oil processing capacity, increase the octane rating of their product gasoline, lower the sulphur content of their diesel fuel and home heating fuels to comply with environmental regulations on air and water pollution.

Processing units used in refineries

- i. **Crude Oil Distillation unit** distils the incoming crude oil into various fractions for further processing into other units.
- ii. **Vacuum distillation unit** further distils the residue oil from the bottom of the crude oil distillation unit. The vacuum distillation is performed at a pressure well below atmospheric pressure.
- iii. **Naphtha hydrotreater unit** uses hydrogen to desulfurize the naphtha fraction from the crude oil distillation or other units within the refinery.
- iv. **Catalytic reforming unit** converts the desulfurized naphtha molecules into higher-octane molecules to produce *reformate*, which is a component of the end-product gasoline or petrol.
- v. **Alkylation unit** converts isobutane and butylenes into *alkylate*, which is a very high-octane component of the end-product gasoline or petrol.

- vi, **Isomerization unit** converts linear molecules such as normal pentane into higher-octane branched molecules for blending into the end-product gasoline. It is also used to convert linear normal butane into isobutane for use in the alkylation unit.
- vii, **Distillate hydrotreater unit** uses hydrogen to desulfurize some of the other distilled fractions from the crude oil distillation unit (such as diesel oil).
- viii. **Merox (mercaptan oxidizer)** or similar units desulfurize LPG, kerosene or jet fuel by oxidizing undesired mercaptans to organic disulfides.
- ix. **A mine gas treater, Claus and tail gas treatment** unit is for converting hydrogen sulphide gas from the hydrotreaters into end-product elemental sulphur. The large majority of the 64,000,000 metric tons of sulphur produced worldwide in 2005 was by-product sulphur from petroleum refining and natural gas processing plants.
- x. **Fluid catalytic cracking (FCC) unit** upgrades the heavier, higher-boiling fractions from the crude oil distillation by converting them into lighter and lower boiling, more valuable products.
- xi. **Hydrocracker unit** uses hydrogen to upgrade heavier fractions from the crude oil distillation and the vacuum distillation units into lighter, more valuable products.
- xii. **Visbreaker unit** upgrades heavy residual oils from the vacuum distillation unit by thermally cracking them into lighter, more valuable reduced viscosity products.
- xiii. **Delayed coking and fluid coker units** convert very heavy residual oils into end-product petroleum coke as well as naphtha and diesel oil by-products.

Auxiliary Facilities¹ Required in Refineries

- i. Steam reformer unit: Converts natural gas into hydrogen for the hydrotreaters and/or the hydrocracker.
- ii. Sour water stripper unit: Uses steam to remove hydrogen sulphide gas from various wastewater streams for subsequent conversion into end-product sulphur in the Claus unit.
- iii. Utility units such as cooling towers for furnishing circulating cooling water, steam generators, instrument air systems for pneumatically operated control valves and an electrical substation.
- iv. Wastewater collection and treating systems consisting of API separators, dissolved air flotation (DAF) units and some type of further treatment (such as an activated sludge biotreater) to make the wastewaters suitable for reuse or for disposal

¹ Auxiliary facilities are facilities that provide supplementary or additional help or support.

- v. Liquefied gas (LPG) storage vessels for propane and similar gaseous fuels at a pressure sufficient to maintain them in liquid form. These are usually spherical vessels or *bullets* (horizontal vessels with rounded ends).
- vi. Storage tanks for crude oil and finished products, usually vertical, cylindrical vessels with some sort of vapour emission control and surrounded by an earthen berm to contain liquid spills.

In sum crude oil refining is all about cracking (melting the oil using heat) and distillation (separating the various components of the melted crude oil). An interplay of temperature and pressure achieves both cracking and distillation

The crude oil distillation unit

Of the various petroleum refining units, the crude oil distillation (CDU) unit deserves special comment because of its critical role in petroleum refining. The crude oil distillation unit is the first processing unit in virtually all petroleum refineries. The CDU distills the incoming crude oil into various fractions of different boiling ranges, each of which are then processed further in the other refinery processing units. The CDU is often referred to as the *atmospheric distillation unit* because it operates at slightly above atmospheric pressure.

In the crude oil distillation unit, incoming crude oil is preheated by exchanging heat with some of the hot, distilled fractions and other streams. It is then desalted to remove inorganic salts (primarily sodium chloride). Following the desalter, the crude oil is further heated by exchanging heat with some of the hot, distilled fractions and other streams. It is then heated in a fuel-fired furnace (fired heater) to a temperature of about 398 °C and routed into the bottom of the distillation unit.

The cooling and condensing of the distillation tower overhead is provided partially by exchanging heat with the incoming crude oil and partially by either an air-cooled or water-cooled condenser. Additional heat is removed from the distillation column by a pump around system.

The overhead distillate fraction from the distillation column is naphtha. The fractions removed from the side of the distillation column at various points between the column top and bottom are called *side cuts*. Each of the sidecuts (i.e., kerosene, light gas oil and heavy gas oil) is cooled by exchanging heat with the incoming crude oil. All of the fractions (i.e., the overhead naphtha, the sidecuts and the bottom residue) are sent to intermediate storage tanks before being processed further.

Nigeria's total petroleum refining capacity is 445,000 barrels per day. However, Nigeria's refineries could only 240,000 b/pd during the 1990s. Subsequently their refining capacities were further reduced to as little as 75,000 b/pd during the regime of Sani Abacha. There are four major oil refineries in the country namely: the Warri Refinery and Petrochemical Plant which can process 125,000 barrels of crude oil per day, the New Port Harcourt Refinery which can produce 150,000 barrels per day. There is also an 'Old' Port Harcourt Refinery with negligible production per day and

the often redundant Kaduna Refinery. As at 2013, the Port Harcourt and Warri Refineries both operate at only 30% capacity.

It is estimated that demand and consumption of petroleum in Nigeria grows at a rate of 12.8% annually.² However, this high growth in consumption rate is not matched by refining of crude oil by Nigerian refineries. Because of this, petroleum products are unavailable to most Nigerians and are quite costly, because almost all of the oil extracted by international oil corporations operating in the country is refined overseas, sometimes by the same by the same international oil corporations, and the refined petroleum is imported into the country.

It has been claimed in certain quarters that the establishment of illegal refineries in the Niger Delta is to some extent due to the inability of the nation's legal refineries to meet the refined oil needs of the country.³ Knowing that they will readily find buyers of their products, illegal refineries owners set up their refineries sure of purchasers of their products mainly diesel oil. Because of the failure of legal refineries to meet the nation's petroleum refining requirements, it has been suggested that the Nigerian government licence the establishment of modular refineries particularly in those places illegal refineries thrived to replace the illegal refineries. The capital outlay for a modular refinery with 24,000 b/pd refining capacity being about 250 million dollars as against the 1.5 billion dollars capital outlay for a big refinery with a 100,000 b/pd refining capacity, the modular refinery can be more easily set up than the big refinery. What is more, it is argued that since the modular system allows the modular refinery to be expanded in structured increments to a refining capacity of 100,000 b/pd, modular refineries may in the long term become big refineries that will meet the nation's refined petroleum products needs. The increments would be funded from the funds generated by the modular refinery and the modular refinery need not be shut down during the increments. So it can continue refining during the increments.⁴ In sum, it is argued that modular refineries are simple, efficient and fast to start up. Such refineries always operate at optimal capacity at all times. The relatively small investment cost allows private investors to enter the refining business much easier. It also allows government to build bigger refineries from modular models.

Construction and Operation of Oil Refinery

Under Nigerian law, no one can refine hydrocarbon oils except in a refinery established and operated by virtue of a licence. That is why the various refineries established and operated in the Niger Delta region of the country without licence are referred to as illegal refineries. A licence to refine petroleum is called a refiner's

² www.indexmundi.com

³ See Sweetcrude Newspaper, March 2014, page 7

⁴ Ibid

licence.⁵ The process and procedure involved in obtaining a refiner's licence are clearly stated in the Hydrocarbon Oil Refineries Act⁶ and its supporting regulations.

Application for refiner's licence

Section 2 of the Hydrocarbon Oil Refineries Act, provides that, "An application for a refiner's licence may be made by any person in the prescribed form and manner to the Customs, Immigration and Prison Services Board (hereinafter referred to as the Board) in respect of the premises mentioned in that behalf in the application" An application for the licence must be accompanied by a detailed study and report of the proposed project. In view of the provisions of the Environmental Impact Assessment Act,⁷ the application must also be supported by environmental impact assessment report. An applicant for such licence is equally expected to pay a certain non-refundable fee. These fees are stipulated in the Petroleum Refining (Amendment) Regulations, made from time to time by the Minister of Finance pursuant to Section 28 of Hydrocarbon Oils Refineries Act.

After due enquiry, the Board shall issue a refiner's licence to the applicant, on payment of a fee, if it is satisfied that the premises mentioned in the application, and intended to be used as a refinery are up to the required standard in terms of suitability and provision of equipment.⁸ However, if the Board is not satisfied after due enquiry in respect of the premises intended to be used for the construction of the refinery, it may refuse to grant the application, and on doing so shall notify the applicant in writing. The notification shall contain details and particulars of the deficiencies in the application, and what the Board considers necessary to be done in the premises before any refiner's licence can be granted.⁹ The Petroleum Refining regulations 1974 contain similar provisions to those of the Hydrocarbon Act.¹⁰ In addition, the Petroleum Refining Regulations 1974 provides that an existing refinery can only be enlarged or modified with the approval of the Minister of Petroleum.¹¹ The regulations provide for safety of refinery personnel and the general public by providing that a refinery shall be a restricted area.¹² Pursuant to this provision, fences, warning notices, safety clothing and appliances, medical facilities and first aid services shall all be provided for in about and in a refinery.¹³ Disposal of residues, sludges, rusts, spillage in the refinery etc is also provided for under the regulations.¹⁴

⁵ See Section 1 of the Hydrocarbons Oil Refineries Act Cap H5 LFN 2004.

⁶ cap H5 Laws of the Federation of Nigeria 2004

⁷ Cap E12 LFN 2004

⁸ See Section 3 of the Hydrocarbon Act Cap H5 LFN 2004.

⁹ See Section 4 of the Hydrocarbon Act Cap H5 LFN 2004

¹⁰ See regulations 1 and 2 of the Petroleum Refining regulations No.45 1974

¹¹ Ibid reg. 3

¹² Ibid reg. 8

¹³ Ibid regulations 9, 11, 12 and 13

¹⁴ Ibid regulations 27 and 38

The 1967 Petroleum Regulations provide that premises that petroleum would be kept should be licensed for that purpose.¹⁵ The only petroleum storage excepted from this provision is petroleum kept in a government petroleum store; petroleum to be used as fuel for a motor vehicle kept in the tank normally forming part of that vehicle; petroleum in tins or cases in transit by rail when temporarily held at a tranship or delivery station, provided such petroleum is removed to a special open enclosure and distinguished by adequate warning notice. For the purposes of the regulation, government petroleum store includes any petroleum store under the management and control of a local authority.¹⁶

Under the 1969 Petroleum Act, the Minister of Petroleum has the right to require the holder of any licence or lease granted under the Act to deliver to any person holding a licence to operate a refinery, such quantity and quality of crude oil as may be specified by the Minister to the extent that the licensee or lessee has crude oil of that quantity and quality.¹⁷

Operating and maintaining an oil refinery

Upon the grant of a refiner's licence, the licensee or owner is expected to commence the construction of the refinery in accordance with the provisions of the licence, the Hydrocarbon Act, and the Regulations and Guidelines. The Regulations and Guidelines contain detailed provisions on matters affecting the plants and machineries, tanks, vessels and pipes to be used in the process. These must conform to the standard expected from the licence holder.¹⁸ A licence holder must also display a signboard, in a conspicuous position outside the refinery, to show his name or business name.¹⁹

Pursuant to the Minister of Petroleum right of pre-emption, the 1969 Petroleum Act provides that the Minister of Petroleum can require anyone with a refinery to provide for the Federal Government, to the extent of his refinery capacity petroleum products complying with specifications given by the Minister.²⁰ The Act further provides that the licensee or lessee shall use his best endeavours to increase so far as possible with his existing facilities the supply of petroleum or petroleum products, or both, for the Federal Government to the extent required by the Minister.²¹ The licensee or lessee shall, with all reasonable expedition and so as to avoid demurrage on the vessels conveying the same, use his best endeavours to deliver all petroleum or petroleum products purchased by the Minister under his said right of pre-emption in

¹⁵ See reg. 34 of the 1967 Petroleum Regulations

¹⁶ Ibid reg.34 (2)

¹⁷ See paragraph 1 (b) of the second schedule to the 1969 Petroleum Act

¹⁸ See section 3 (2) of the Hydrocarbons Oil Refineries Regulation 1965.

¹⁹ See Section 5 of the Regulation 1965.

²⁰ See paragraph 1 (a) of the second schedule to the 1969 Petroleum Act.

²¹ Ibid paragraph 2

such quantities, and at such places of shipment or storage in Nigeria, as may be determined by the Minister.²²

The Petroleum Regulations also prohibit transportation of petroleum without licence. It provides that no person shall transport petroleum in bulk otherwise than under and in accordance with a licence issued under this Part.²³ By this provision, whether petroleum is to be transported by pipelines or by sea or road tankers licence is required. Licence may be granted by the harbour master or by the Director-General of the Ministry responsible for matters relating to petroleum resources.

Expiration and Revocation of refiner's licence

A refiner's licence shall remain in force, unless revoked. When a refiner's licence expires, the holder is free to apply for a renewal. When the refiner applies for renewal, the provisions of sections 3 and 4 of the Hydrocarbon Act will apply. The application of sections 3 and 4 of the Hydrocarbon Act means the application for renewal may be granted or refused upon consideration of its merits based on the study and report of the customs, immigration and prison services Boards as well as other relevant factors.²⁴

The grant of a refiner's licence does not confer on the holder a perpetual interest. Rather his interest is subject to revocation by the Board. Section 5(1) of the Hydrocarbon Act provides that if the Board – the issuing authority, is satisfied that:

- (a) proper control for excise purposes can no longer be exercised over the premises; or
- (b) that the person to whom the licence was granted has ceased to refine hydrocarbon oils on such premises, the Board may revoke the licence.”

The implication of the above provision is that the licence of Nigerian moribund refineries may be revoked when they become moribund. Where the Board decides to revoke a refiner's licence, it shall notify the licence holder in writing of the said revocation.

Offences under the Act

A number of offences are created under the Hydro Act. Firstly, it is an offence for any person to refine hydrocarbon oils, other than in accordance with the provision of section 1 of the Act. Under the Hydrocarbon Oil Refineries Act as under the Petroleum Act, no person can refine hydrocarbon oils save in a refinery and with a refiner's licence issued under the Hydrocarbon Act. A person who does the contrary commits an offence under section 7(1) of the Hydrocarbon Act. The penalty on summary conviction is a fine or a term of imprisonment of two years, or both.

²² Ibid paragraph 3

²³ Ibid reg. 55

²⁴ See Section 6 of the Hydrocarbon Act.

However upon conviction on indictment, the penalty is a fine of an unlimited amount or imprisonment for a term not exceeding five years or both.²⁵

Under section 24 of the Act, a person who conceals any refined hydrocarbon oils on premises on which they are refined, or without the consent of the proper officer removes any refined hydrocarbon oils from such premises, or knowingly possesses, buys or receives any such hydrocarbon oils removed from such premises before duty has been charged, commits an offence punishable with a fine proportionate to the value of the goods, or imprisonment for two years or both.

On its part, Section 3 (1) of the Petroleum Act provides that no refinery shall be constructed or operated in Nigeria without a licence granted by the Minister of Petroleum. Failure to obtain a licence before constructing a refinery is an offence under section 13 of the Petroleum Act that attracts ₦2,000 fine. In addition to the fine, the court may order any petroleum product acquired or produced by the unlicensed refinery to be forfeited or that the person pays to the Minister of Petroleum the value of the petroleum or its product.²⁶ Though the section does not state to whom a forfeiture in this provision would be made, it must to the Minister of petroleum that the forfeiture would be made since it is to him that payment of the value of petroleum or its product is made.

It is worth noting that the penalty regime under the Hydrocarbon Oil Refineries Act is not the same with that under the Petroleum Act. While the Hydrocarbon Oil Refineries Act stipulates an imprisonment term of two years or a fine of an unstated amount for establishing or operating a refinery without a licence, the Petroleum Act imposes a fine of two thousand naira or forfeiture of the petroleum refined by the unlicensed refinery. The question is which of the two conflicting penal regimes applies. The answer is, both legislations being principal and specific legislations, none enjoys superiority over another and so both apply. This being the case, in the event of the offence under reference being committed, the judge is entitled to have recourse to any of the penal provisions. This is confusion that should be cured by amendment of the penal provisions of the two laws or by a sectoral repeal of one of them.

When a refinery has been duly constructed pursuant to a licence, the Minister of Petroleum is required to regulate refineries and refining operations. To some extent, the law goes into the machine with the crude oil to define how the crude oil would be refined. The Minister specifies the quantity of crude oil to be supplied to each refinery, the share of each refinery in the oil market and the prices of refined products. Under the downstream deregulatory regime in the Petroleum Industry Bill, the Minister's power to determine oil prices would lapse after the Bill has become law and the downstream oil sector has become sufficiently deregulated. The power to determine

²⁵ See Section 7(1) (a) and (b) of the Hydrocarbon Act.

²⁶ See section 13 (4) (a) and (b) of the Petroleum Act.

the prices of petroleum products henceforth would be exercised only by the market, monitored by the Downstream Petroleum Regulatory Agency. (DPRA)²⁷

Unlike under the Petroleum Act, the Petroleum Industry Bill provides that Downstream Petroleum Regulatory Agency (DPRA) shall have the power to grant downstream licences, which shall include, but shall not be limited to:

- a. Constructing and operating a process plant, including those of gas liquefaction;
- b. Constructing and operating a petroleum transportation pipeline for crude oil or gas or condensate or petroleum products;
- c. Constructing and operating a petroleum transportation network;
- d. Constructing and operating a petroleum distribution network;
- e. Undertaking the supply of downstream products or natural gas;
- f. Owning and running a downstream products or natural gas processing or retail facility.²⁸

The Agency shall grant licences in respect of the utilization of all chemicals used for downstream petroleum operations in Nigeria including chemicals used in the processing, distribution and storage of petroleum products.²⁹ A person shall not conduct any downstream operations without a licence by the Agency.³⁰ Licences granted by the Agency of the same class shall contain similar conditions which shall be standard licence conditions for that class and any differences in conditions contained in licences issued to licensees of the same class shall be for objectively justifiable reasons.³¹ The Agency has power to grant, renew, modify or extend a licence on application in the prescribed form and on payment of fees.³²

No licensee shall assign or transfer its licence or any rights or obligations arising from such licence without the prior written consent of the agency.³³ A licensee may apply to surrender his licence where:

- a. The licensed activity is no longer required;
- a. In the opinion of the licensee, the licensed activity is not economically justifiable;
- b. The licensee has failed to commence licensed activity within the time frame specified in the licence;
- c. A more qualified person is willing and able to assume the rights and obligations of the licensee.³⁴

A licensee applying to surrender his licence shall comply with all legal requirements in respect of relinquishment and decommissioning of installations and

²⁷ See section 221 and 226 of the 2012 Petroleum Industry Bill.

²⁸ See section 206 (1) PIB

²⁹ Ibid section 206 (2)

³⁰ Ibid section 206 (3)

³¹ Ibid. section 207 (3)

³² Ibid section 208 (1) and (2)

³³ Ibid section 209 (1)

³⁴ Ibid section 210 (1)

reclamation of land.³⁵ A licence may be revoked by the Agency on grounds of breach of licence conditions, insolvency, where licensee goes into liquidation, or where he fails to commence activities within the prescribed period of time.³⁶

Registers of Licences and Memorials

The Agency shall maintain and make publicly available on payment of a fee a register of all licences issued, revoked, suspended, surrendered or withdrawn. All licences shall be prepared in duplicates. A copy shall be given to the licensee while the Agency retains the other copy.³⁷ There would also be a register of memorials into which the Agency shall register extensions, transfers, surrenders, revocations, exemptions, forfeiture, change of addresses, change of name or any other matter affecting the status of or any interest in any registered licence.³⁸

Registration of a licence is conclusive evidence that the rights described in the licence are vested in the person named therein as the licensee, and the conditions therein are binding on the licensee.³⁹ Where it comes to the notice of the Agency that a licensee is contravening conditions of the licence, the Agency will draw the attention of the licensee to the contravention and if he rectifies his position the licence will not be revoked.⁴⁰

Any licensed oil marketing company may be permitted access to the jetties, loading facilities and storage depots or pipelines owned by downstream operators.⁴¹ Any licensed oil marketing company, bulk consumer of petroleum products or independent refineries may construct and operate independent pipelines, depots or jetties for their exclusive use.⁴²

Deregulation of the Downstream Petroleum Sector

The Petroleum Industry Bill establishes a regime of deregulation of the downstream sector of the oil and gas industry. The pricing of petroleum products in the downstream product sector is deregulated to ensure:

- (a) A market related pricing;
- (b) Adequate supply of petroleum products;
- (c) Removal of economic distortions; and
- (d) The creation of fair market value for petroleum products in the Nigerian economy.⁴³

³⁵ Ibid section 210 (2)

³⁶ Ibid section 212

³⁷ Ibid section 213 and 214

³⁸ Ibid section 215

³⁹ Ibid section 216

⁴⁰ Ibid section 219

⁴¹ Ibid section 222

⁴² Ibid section 223

⁴³ Ibid section 221

However, the Agency is required to monitor the prices of petroleum products applying in the domestic market to ensure that there is no pricing collusion or manipulation.⁴⁴ In monitoring prices, the Agency shall coordinate with relevant authorities to inspect the metering of pumps and other facilities at retail outlets to ensure they conform to existing national standards, inspect retail outlets to ensure they conform to quality standards that will ensure good prices for petroleum products.⁴⁵

Any person that obstructs any officer of the Agency from carrying out his duties, or refuse him access to any premises, or refuse to acknowledge receipt of any summons by the Agency, or fail to comply with any lawful demand, notice, order or requirement of the Agency, commits an offence and is liable on conviction to a punishment to be specified by the Minister of Petroleum in Regulations to be made by him. In addition such licensee may be asked to discontinue supply of petroleum products.⁴⁶

Under the price deregulation regime of the PIB, the Minister of Petroleum will lose his power under the 1969 Petroleum Act to fix the prices of petroleum product. The market will assume the power lost by the Minister. It will fix prices hitherto fixed by the Minister.

Regulation of the Downstream Gas Sector

The Petroleum Industry Bill empowers the Downstream Petroleum Regulatory Agency to grant transportation pipeline owner licence, which right entitles the holder to own, operate and maintain a transportation pipeline within a route as defined in the licence.⁴⁷ Such licensee shall operate and maintain economical, safe and reliable transportation infrastructure, manage supply shortfalls, shut down its transportation system in emergencies and in order to carry out maintenance, have due regard for the effect of its licensed activities on the environment.⁴⁸

The Agency may also grant a transportation network operator licence authorizing the licensee to convey gas through the transportation network, provide third party access to the transportation network and charge for the use of the transportation network.⁴⁹ The transportation network operator shall operate an efficient and economical transportation for safe and reliable conveyance of gas, ensure efficient and equitable access to the transportation network, establish and publish terms and conditions for access to the network, and enter into agreements with

⁴⁴ Ibid section 226 (1)

⁴⁵ Ibid section 126 (2)

⁴⁶ Ibid section 226 and 227

⁴⁷ Ibid section 230

⁴⁸ Ibid section 231

⁴⁹ Ibid section 233 (1)

transportation pipeline owners, distributors for connection to and operation of transportation network.⁵⁰

To supply gas, the Agency has to grant licence to the gas supplier. Such persons to whom a licence may be granted include a gas producer. The gas producer shall have the right to terminate gas supply to a customer in the event of non-payment,⁵¹ and the right to enter premises to remove meters for the purpose of reading them and to test metering equipment for their workability.⁵²

To distribute gas, a gas distribution licence would have to be granted by the Agency to the distributor.⁵³ The gas distributor connects all customers within its local distribution zone. It is required to publish terms and conditions of access to its distribution network.⁵⁴ A distribution licensee has the power to enter the premises of the customer to read meters, to test metering equipment and to disconnect customers and remove meters.⁵⁵

Third party access to gas transportation network and gas distribution network shall be on a non-discriminatory basis between system users with similar characteristics.⁵⁶ Connection agreements may be entered into between a gas customer and a gas distributor, between a gas transportation pipeline owner and a gas transportation network operator, between a distributor and the transportation network operator when a gas distribution network extends to the main gas transportation network, between a supplier and a transportation pipeline owner.⁵⁷

Where the Minister on the advice of the Agency determines that a particular gas licensed activity is a monopoly service, that competition has not yet develop to such an extent as to protect the interest of customers; or that a particular licensee is a dominant provider, the Agency shall have the power to regulate the prices charged.⁵⁸

The Act provides for consumer protection by empowering the Minister or the Agency to require suppliers and distributors to publish the terms of supply or distribution, to establish or facilitate the establishment of a forum at which customers are able to express their views and raise their concerns.⁵⁹ Also suppliers or distributors may by regulation be required by the Minister to formulate and adhere to such standards of performance as are in the opinion of the Minister necessary to ensure the

⁵⁰ Ibid section 234 (1)

⁵¹ This provision is a panacea to the problem of gas consumers such as PHCN owing the Nigerian Gas Company billions of naira in unpaid gas supplied to them.

⁵² Ibid section 239 (1)

⁵³ The difference between a gas supplier and a gas distributor is that the gas supplier supplies to the gas distributor.

⁵⁴ Ibid section 241 and 242

⁵⁵ Ibid section 243

⁵⁶ Ibid section 250 (1)

⁵⁷ Ibid section 250 (2)

⁵⁸ Ibid section 252 (1)

⁵⁹ Ibid section 258 (1)

safety, reliability and quality of supply and distribution services to customers, and set penalty for failure to comply.

The Agency may at its discretion designate distributors and suppliers of last resort to provide services to customers.⁶⁰ The Agency may, following consultations with licensees, customers and other interested stakeholders, advise the Minister to issue regulations imposing a *public service obligation* on licensees in relation to security of supply, environmental protection, and health and safety.⁶¹ The Agency may, if it considers it is in the wider interest of the public, make recommendations to the Minister to issue regulations providing for the recovery of any additional costs incurred in complying with the public service obligations, through a *public service levy*, which may be imposed on customers.⁶²

The Bill provides that a licensee or any other person having ability to influence the terms and conditions on which licensed activities are performed and the prices at which petroleum products are supplied shall not:

- (a) Make it a condition for the provision or supply of a product or service that any person acquiring such a product or service will be required to acquire or not acquire any other product or service either from the licensee or from any other person;
- (b) Enter into a contract, arrangement, collaboration or understanding, whether legally enforceable or not, which provides for or permits the fixing of tariffs, prices or charges in such manner as to manipulate market prices;
- (c) Engage in or conduct its activities directly or indirectly, for purpose of market sharing;
- (d) Permit, allow, influence, direct exclusion of, or imposition of any embargoes, or boycotts on another licensee, operator, or supplier of equipment or apparatus; or engage in any other conduct the Agency deems anti-competitive.⁶³

Where the Agency thinks there is the likelihood of anti-competitive behaviour, it may issue *cease and desist orders*, require and compel the disclosure of information from the affected licensee, undertake inquiries and investigations, and levy fines, which shall be set out in regulations made pursuant to the Act.⁶⁴ The Agency is required to constantly investigate *abuse of market power* that destroys competition and negatively influence prices to the benefit of licensees at the detriment of consumers.⁶⁵ The Agency has a choice of imposing a *cease and desist order* on a licensee guilty of *abuse of market power* or levying a fine of fifty million naira on it.⁶⁶

The PIB provides that a person shall not:

⁶⁰ Ibid section 259

⁶¹ Ibid section 260

⁶² Ibid section 261 (1)

⁶³ Ibid section 262

⁶⁴ Ibid section 263

⁶⁵ Ibid section 264

⁶⁶ Ibid section 264 (4)

- a. Cause damage to any infrastructure, plant or equipment belonging to a downstream product or gas licensee including fittings, meters, apparatus or equipment;
- b. Alter the operation of any meter, equipment or apparatus including those used for measuring the quantity or quality of petroleum products or gas supplied;
- c. Prevent any meter, equipment or apparatus including items used for measuring or registering the quantity of petroleum products or gas supplied from functioning accurately or properly such that they cannot register the quantity of petroleum products or gas supplied.⁶⁷

This is a good provision. If applied to the oil sector, it will take care of tampering with meters or even removal of metering equipments in refineries.

Any person convicted of intentionally committing any of the above offences shall be liable to a fine of one hundred million naira and, reimbursing the licensee for any petroleum products or gas illegally taken and for any damage to the licensee's equipment.⁶⁸ The phrase *convicted of intentionally committing any of the offences* is anomalous. Except in strict liability cases, which the offences here are not, a person can only be convicted if he intentionally commits an offence. He cannot be convicted if he unintentionally commits an offence. This being the case, the inclusion of the word *intentionally* in the provision is not only uncalled for, it is apt to mislead or confuse.

Where a person is unable to pay the penalty of one hundred million naira or reimburse the licensee, the person or in the case of a company, every officer responsible for the management of the company shall be liable to imprisonment for a period not less than two years and not more than five years unless the officer proves to the strictest standard that all reasonable precaution were taken and due diligence was exercised to prevent the commission of the offence.⁶⁹

A licensee shall not use or permit its pipeline, equipment or other facilities to be used for the commission of any criminal or civil offence, and every licensee upon request from the Agency or other lawful authority shall assist the Agency or the lawful authority to prevent the commission of any offence under this Act or other law in force.⁷⁰

The Agency shall at the beginning of each year announce an update of the Domestic Gas Demand Requirement which is the gas requirement of various sectors of the nation.⁷¹ The Agency shall ensure that the Domestic Gas Demand Requirement is met by the Domestic Gas Supply Obligation.⁷²

⁶⁷ Ibid section 265 (1)

⁶⁸ Ibid section 265 (2)

⁶⁹ Ibid.

⁷⁰ Ibid section 266

⁷¹ Ibid section 269

⁷² Ibid section 270 (3)

Processing of Gas

Before natural gas can be used, it has to be processed to remove impurities including water. Gas often contains propane, pentane, ethane and butane heavier hydrocarbons. These heavier hydrocarbons are removed for commercial use before the methane (the gas) is sold. Non-hydrocarbons like carbon dioxide, nitrogen, helium and hydrogen sulphide also have to be removed before the natural gas can be transported.

Marketing of Refined Petroleum and Gas

Marketing of Refined Petroleum

After refining crude oil, petrol and other by-products are marketed. Virtually all petroleum refined in Nigeria is sold in Nigeria with some quantity smuggled across the Nigerian border to be sold in neighbouring countries like Benin, Togo and Cameroun.

The 1969 Petroleum Act provides the legal framework for the marketing of petroleum and its by-products. Section 4 (1) of the Petroleum Act provides that no person shall import, store, sell or distribute any petroleum products in Nigeria without licence granted by the Minister of Petroleum. However, this provision shall not apply in respect of storage, sale or distribution of not more than 500 litres of kerosene and any other categories of petroleum products as may be exempted from the application of the section by an order of the Minister of Petroleum.¹ Any other product so exempted by the order of the Minister, the order containing the exemption should be published in a Federal Gazette.²

The above legal provision has two implications namely:

- (i) Any product not mentioned by the Act as exempted from the prohibition can only be exempted by an order of the Minister of Petroleum.
- (ii) If the Minister exempts a product by order, he must publish the exemption order in a Federal Gazette, failing which the exemption will not hold.

The above two conditions must be conjunctively met before a product not exempted by the Act can be exempted. Kerosene is the only product exempted from prohibition by the Act. Therefore only kerosene may be stored or distributed without a special order by the Minister. Even for kerosene, the storage or distribution should not be of a volume more than 500 litres. What all these boils down to is that petroleum vendors who horde and hawk petrol are engaged in illegal activities an exemption having not been made for the storage, distribution (hawking) of petrol by the Act, and the Minister having not gazetted an order allowing for the storage and distribution of petrol of any quantity. The crime committed by these vendors is

¹ See section 4 (2) (a) of the Petroleum Act

² Ibid

punishable with a N2,000 fine.³ In addition to this fine, the vendor may forfeit the hoarded and hawked petrol.⁴

Marketing of Processed Gas

Gas gathered and processed in Nigeria is either sold in Nigeria or outside the country. The aspiration of the Nigerian Gas Master Plan is to reposition the country in the shortest possible time as a regional gas supply hub with concurrent presence in the domestic, regional and international export market. To accomplish this, it aims at creating a fully liberalized market within five years which is underpinned by a robust and fully connected gas infrastructure that supports the three markets concurrently so that cost-effective gas from any source can get to any market. Transformation of the domestic market into a vibrant and fully commercial gas market where the gas price stimulates investment in supply and the sustainability of the market complements the regional and international gas markets enabling a balance portfolio, attracting widespread participation by new players that stimulate competition and efficiency. In order to achieve these objectives, the Nigeria Gas Master Plan was developed into three critical elements:

Gas Pricing Policy

This policy is to ensure natural gas is supplied at affordable prices to all domestic sectors, mainly power and other sectors that have a significant multiplier effect on the nation's economy. A stratified pricing mechanism has been adopted for this policy as listed below:

a. Strategic Domestic Sector

This being the sector with the greatest multiplier effect on the economy namely power, residential and light commercial users. Thus this sector will be supplied at the lowest commercially sustainable price.

b. Strategic Industrial Sector

This sector comprises industries that require gas as their main feedstock, such as fertilizers companies, methanol, GTL, etc.. The policy is to make prices as competitive as obtainable in other parts of the world.

c. The Commercial Sector

This is the sector that uses gas as industrial fuel, e.g. for manufacturing purposes.

³ See section 13 (2) of the Petroleum Act.

⁴ Ibid

Each of the above sectors has a dedicated pricing regime, which sets out a transparent structure for the determination of the floor price of gas. The floor price of gas for the strategic domestic sector will be determined on a cost-of-supply basis using a pseudo-regulated pricing regime. This regime establishes the lowest cost of supply that will allow a 15% return for the supplier. The forecasted average domestic price from all three sectors will be known as the Aggregate Domestic Price (i.e. the price all gas supplies will be paid). The aim is that buyers will pay for gas at the sector price while suppliers receive an aggregate gas price. The government policy introduces a floor price of US\$0.4 /mmbtu at power plants based on a price of S\$0.10/mmbtu at 2008 at the wellhead and transmission charge of US\$0.30/mmbtu. The price of gas to non-power consumers is expected to cross-subsidize⁵ the price to the power plants resulting in a pooled price of US\$0.50/mmbtu at 2008 to increase to \$1.30/mmbtu by 2012. This arrangement of a pooled price is expected to be managed through the proposed institutional arrangement of a Strategic Aggregator. The Strategic Aggregator will be the first contact point for the gas trade and will issue Gas Purchase Orders after due diligence. The proposed Gas Aggregator will be empowered to open and manage an escrow account with an escrow agent approved by the Department of Gas. The aggregator will direct purchasers of gas to make payment for gas supply into the account in accordance with the payment agreed by the suppliers, gas purchasers and the Aggregator. The Gas Aggregator shall prepare and provide annual detailed audit report of the escrow account to suppliers of gas and ensure transparency dealings between gas suppliers and purchasers. Price of gas for the power sector was set to go up as high as US\$1.30/mmbtu by 2012 by which time the cross subsidy was expected to be phased out. The Government also introduced a securitization framework to assure investment in gas supply to the power sector. Both of these steps would provide a much needed boost to gas supply.

The Domestic Gas Supply Obligation

To ensure the success of the Gas Master plan, the Domestic Gas Supply Obligation was formulated as one of the elements of the Gas Master Plan. This policy of the government in the Gas Master Plan has been captured in the 2012 Petroleum Industry Bill. The Bill mandates all gas players in the country to set aside a predetermine amount of produced gas for the domestic market. Following the Gas Management Model through which the demand and supply of gas in the country will be forecasted, each of these producers will be required to submit a gas production and supply plan consistent with its obligation under the Domestic Gas Supply Obligation Regulation. The Bill penalizes any defaulter making him pay compensation to any purchaser for any losses suffered as a result of default to supply gas in compliance with the order of

⁵ Cross subsidization is a strategy whereby profit made from one product is used to lower the price of another product. This is usually done to attract customers to a new product by giving it a lower price. The low price is sustained by the high price of another product produced by the same company.

the Gas Aggregator. The Bill sets a penalty of \$3.5 for supplying short of the Domestic Gas Supply Obligation.

The Gas infrastructure Blueprint

The Nigerian government as at 2007 has developed a robust gas infrastructure blueprint to foster the Gas Master Plan. The blueprint aims at reducing the overall infrastructure cost as well as ensure a more flexible supply grid nationwide. The gas grid will provide connectivity between major gas reserves sources and the demand centres, thus providing a roadmap that would guide future investment in the gas sector in a bid to ensure proper utilization of gas resources in the key sectors of the economy and the regional market. The process is designed to ensure that synergies are maximised and infrastructure aligned to deliver the aspiration of the Gas Master Plan.

The Gas Infrastructure is divided into two major parts namely: Gas Gathering/Processing and Gas transmission. The Gas Master Plan provides for Central Gas Gathering and Processing. This process entails the collection of wet gas from gas fields into a central facility for treatment and processing. In the central treatment and processing facility, wet gas will be dehydrated to acceptable standards and any element of undesirable compounds of carbons, sulphur and mercury removed before onward transmission into the grid. At these facilities, processes for the extraction of LPG and condensates will also be available. The recovered products will be supplied to the domestic market. The Central Gas Gathering and processing facilities as designed in the blueprint is proposed to be located at the Warri/Forcados area, the Akwa Ibom/Calabar area and the Obiafu area north of Port Harcourt. Only licensed investors within the franchise area will be allowed to develop and operate these facilities.

To achieve gas transmission, the Gas Infrastructure Blueprint provides for Gas Pipeline Transmission System. The Gas Pipeline Transmission system contains grids of pipeline networks designed for construction and operation pursuant to the Blueprint. These networks of pipeline will transmit gas to areas of demand across the country. The blueprint contains three pipeline systems. They are:

i- The Western Gas Transmission System

This network comprises the existing Escravos – Lagos pipeline and a new offshore extension to Lagos. The new offshore extension will be connected to Lagos and ran through the western states to terminate at Jebba. The key market for this network will be the domestic market that feeds Nigerian industrial and residential demands.

ii- The South-North Gas Transmission System

This will take dry gas from Akwa Ibom/Calabar Central Gas Gathering and processing facility to Ajaokuta, Abuja, Kano and Katsina. The line will also serve the Eastern states of Anambra, Abia, Ebonyi, Enugu and Imo. Key market for this system will be domestic and the North Africa regional market. To supply gas to the North Africa

regional market, the South-North Gas Pipeline will be linked to the Trans-Sahara Pipeline.

iii- The Interconnector System

This network is expected to link the Eastern gas fields with the other transmission systems. The system is developed as a grid, ensuring redundancy and multiple accesses to gas markets from any gas source. This increases the resilience of the gas market to pipeline disruptions. The foregoing provides the basis for the establishment of a robust and liquid Nigeria gas market and also reveals a lot of gas transmission investment opportunities for investors. With these, gas availability can be assured and deliverability as well as commerciality of gas also assured. As at 2012, it was anticipated that over the next 4-5 years, a great part of the infrastructure will be delivered.

Domestic Gas Market

Nigerian domestic gas utilization opportunities are tremendous when explored. Some of the domestic demand centres are power generation, cement industry, fertilizer, iron and steel plants. Others are petrochemical, aluminium smelting and distribution to industrial centres as source of energy supply. Currently the largest single consumer of natural gas in Nigeria is the Power Holding Company of Nigeria which accounts for about 70% of the gas consumed domestically. The company currently operates power generating gas plants at Afam, Ughelli, Sapele and Egbin. The combined daily requirements of these plants at peak performance are about 1500mmcfpd. Government is encouraging Joint Ventures and multinational oil companies operating in Nigeria to embark on Independent Power Plant [IPP] Projects as part of the power sector reforms. The Electricity Reform Act focuses on power generation, transmission and distribution in the country by making provisions on how to improve all these critical aspects of power generation and supply. The IPPs are expected to contribute about 3000MW to the national grid. This strategy will ensure the realization of the government intentions to increase national electricity generation from 2012 3000MW to 10000MW in five years. The Nigerian government by 2012 had the long term plans of facilitating the establishment of six additional thermal plants that will use natural gas as fuel. When these plants are built, the gas demand is expected to increase considerably. Electricity consumption growth from 1993 to early 2000 was approximately 0.5% per year whereas growth rate for developing countries such as Nigeria was estimated at 8% per year. An analysis of per capita use of electricity in various countries correlated to Gross Domestic Product (GDP). Per capita electricity consumption in Nigeria as at 2013 had only a negligible 136KWh well below the per capita electricity consumption of neighbouring West African countries such as Ghana and Ivory Coast, which are not endowed with electricity

generating resource as natural gas as Nigeria. Ghana and Ivory Coast per-capita electricity consumption is 309KWh and 174KWh respectively.⁶

Given the power demand potential of Nigeria, there is considerable room for growth of gas demand for power generation. Using a growth factor of 2.5 as the base estimate would result in increase gas consumption by the power sector of Nigeria from 1999 level of 270mmcfpd to over 4900 mmcfpd by 2015. Demand growth in the cement industry is usually limited by local production capability and capacity utilization rates. Non-gas fired cement is not cost competitive because it relies on relatively expensive, often unreliable liquid fuel supplies. Estimating the base gas demand for the cement industry over the next 5 years, this could increase from 90mmcfpd in 2008 to 350mmcfpd by 2015. This demand in the cement industry would be met by a combination of plant expansions, new grassroots capacity additions, and conversion of liquid fuelled kilns to the more efficient, gas-fired kilns.

As at 2012, the major gas consumer for cement production in Nigeria is the Dangote Cement Company. Other cement producing companies were yet to avail themselves the use of gas as a source of energy to power their equipments and fire their kilns despite the relative cheapness of gas over other sources of energy. This is due to the lack of a Natural Gas Grid, which should have brought gas nearer the plants for ease of accessibility. Nigeria's fertilizer application rate averaged about 13 kg/hectare, which is much lower than that of many other African countries including Malawi and Ivory Coast, which range from 21 to 22 kg/hectare, respectively. There is considerable opportunity to expand fertilizer production beyond the approximate 800,000 tpy being consumed as at 2009. Fertilizer demand is projected to increase by 6 to 7 % per year over the next 20 years. This increase in fertilizer demand will result from increased land cultivation, and improved fertilizer application rate. Base gas demand in this sector could reach 307 mmcfpd by 2015.

Nigeria's per capita use of steel is also low relative to other developing countries. Because of low production capacity utilization due to plant shut downs, demand is met through importation. Current capacity utilization rates are less than 1% of Nigeria's total production capacity of roughly 2.3 mm tpy. The situation with the iron and steel industry is dismal. Despite the fact that the gas infrastructure to the plant at Aladja and Ajaokuta has been in-place for a long time, the inactivity of these plants, has reduced their gas consumption to near zero. However, with improved performance in the industry and the other sectors, it is estimated that base gas demand in this sector may double every 10 years. Restarting the existing steel plants and revamping them to meet the estimated demand of 2.0 mm tpy by 2020 will result in total gas demand increase of 130 mm cfpd by 2020.

Gas is a major feedstock of the petrochemical industry. The gas demand for Nigeria is put at approximately 60 mm cfpd.⁷ The demand results from gas use by

⁶ www.indexmundi.com/ghnaelectricity_consumption.htm

petrochemical plants. The gas demand projection in this sector assumes that all facilities in the sector are operating. The projection also takes into account the anticipated local demand for finished petroleum products, and assumes that new petrochemical plants would be built in 2015. With increased capacity, gas demand in the oil petrochemical sector could reach almost 100 mm cfpd by 2020. Nigeria has only one aluminium smelter plant -- the Aluminium Smelter Company of Nigeria (ALSCON) -- with a production capacity of 200,000 tpy. ALSCON, which was built in the mid-1990s, operated briefly, and reached a capacity of about 22 % before it became idle in mid-1999.

Consumers of gas always give temperature and pressure specifications of the gas they need. The gas supplier would then process the gas to the temperature and pressure specifications before supplying the customer.

Offtake Agreements

Offtake agreement is an agreement between a producer of a resource and a buyer of a resource to purchase/sell portions of the producer's future production. An offtake agreement is usually negotiated prior to the construction of a facility such as a mine in order to secure a market for the future output of the facility. If lenders can see the company will have a purchaser of its production, they will be more willing to supply finance to construct a facility. Offtake agreements are often used in natural resource development where the capital cost to extract the resource is enormous and the company wants a guarantee that some of its products would be sold. Companies can always back out of an offtake agreement through negotiations with the other party and usually after payment of a fee. There is an offtake agreement in respect of the Nigerian Gas-Liquid Escravos Gas project.

Because offtake agreements persuade investors to invest in gas projects, the Nigerian Gas Master Plan will mobilize more investments if offtake agreements are entered into with as many gas consumers as are willing to enter into such agreements. This will assure investors that as soon as a gas project they have invested in starts production, there would be buyers of their product.

Toll Agreements

A toll agreement is an agreement by a purchaser with the owner of raw materials to process the raw materials for a specified fee into a product while the raw materials and the product remain the property of the provider of the raw material.

A tolling agreement is also an agreement to waive a right to claim that litigation should be dismissed due to the expiration of a statute of limitation. Its purpose is typically to allow parties additional time to assess and determine the legitimacy and viability of their claims and/or the amount of their damages without the necessity of

⁷ www.indexmundi.com

filing an action. During this period, the parties waive any defence by way of any statute of limitation which would otherwise arise after the effluxion of a particular time.

Persons entering into a tolling agreement should verify whether it might void their liability insurance. The agreement should be worded so as not to resuscitate claims for which the limitation period has already passed and to be sure that the agreement only tolls the statute of limitation. The agreement should not contain an admission of wrongdoing, unless that is what is agreed to.

In the oil and gas industry, a toll agreement is an agreement by a purchaser of crude oil to process or refine the crude oil, sell the refined oil before paying for the crude. Toll agreements are not common in the Nigerian oil and gas industry.

Abroad or at home, processed gas is marketed either through offtake agreements or the open market. Though Nigerian gas is not marketed through toll agreements, the relevance of toll agreements to oil and gas entitles them to be discussed in this text as much as offtake agreements.

Transportation of Refined Petroleum and Processed Gas

Transportation of Refined Petroleum

Just as crude oil must be moved from the production site to the refineries, so must the refined products be transported to various distribution centres for marketing. Petrol, kerosene, gasoline and other refined petroleum products are expected to get to the consumers. That can only be achieved through effective means of transportation.

After refining crude oil in the refineries, the refined petrol is transported to filling stations for sale to end-product users. Transportation of refined petrol in Nigeria is mostly either by oil tankers by road or by pipeline. By oil tankers, the fuel is taken to filling stations. By pipeline, it is taken to the depot. When the railway still had trains running on it, refined petrol was also transported by rail.

However transported, the 1969 Petroleum Act provides that the Minister of Petroleum shall regulate the transportation of petroleum and petroleum products, prescribing the quantity of petroleum and petroleum products which may be carried in any vessel, cart, truck, railway wagon or other vehicle.¹ Insurance is a very important part of transportation of petroleum by whatever mode considering the risk of accidents and loss of cargo.

Transportation of Processed Gas

Because of its nature, storage and transportation are major problems of gas. LNG carriers transport LNG across nations, while tank trucks carry compressed natural gas (CNG) over short distances. To transport gas, it may need to be turned to liquid in a liquefaction plant. After transportation in a liquid form, it is regasified on reaching destination. Gas to liquid technology is developed to help transportation of Gas over long distances. The West Africa Gas Pipeline and the Trans-Sahara Gas Pipelines are pipeline projects that are aimed at overcoming the problem of long distance gas transportation in Africa.

¹ See section 9 (1) (e)

The West Africa Gas Pipeline

To market gas in the West African sub region, the West Africa Gas Pipeline project was embarked on by some ECOWAS member nations in furtherance of ECOWAS objective of economic integration. This was done to expand the West Africa regional gas market. The West Africa Gas Pipeline project's history dated back to 1982 when the Economic Community of West Africa States proposed the development of a natural gas pipeline through West Africa. In the early 1990s, a feasibility report adjudged the project commercially viable. On 11th of August 1999, a Memorandum of Understanding was signed by participating countries – Nigeria, Ghana, Togo and Benin. In February 2000, an inter- governmental agreement was signed.

The West Africa Gas Pipeline Company Limited (WAGPCo) was set up to build, own and operate the West Africa Gas Pipeline. The company was established by the government of the four countries of Nigeria, Ghana, Togo and Benin as a public/private partnership with Chevron/Texaco having 36.7% shareholding, Royal Dutch Shell (18%), Nigeria National Petroleum Corporation (25%), Volta River Authority of Ghana (16.3%), Societe Togolaise de Gaz (2%), and Societe Beninoise de Gaz (2%). In addition to this equity holding by the Joint Venture partners, the project's pipeline construction and operations obtained financial guarantees of the World Bank. On the whole, the total project was estimated to cost about US\$974 million.

The WAPCo pipeline is seen by Economists as a catalyst for clean economic growth, a tool for environmental benefit, and a cornerstone for regional integration. It is also unique being the first natural gas transmission system across West Africa international borders. It is an outstanding example of cooperation and partnership between the government of Nigeria, Ghana, Benin and Togo under the auspice of the Economic Community of West Africa State (ECOWAS) to achieve their long-term goal of energy security. It serves as a pioneering model of a multi-country private/public sector partnership for regional economic growth. The pipeline project shows that through creative cooperation among states in the West Africa sub-region a predictable and stable business environment can be generated which will attract significant private direct investment into the sub-region. Over its life, the pipeline will provide a long term supply of energy to stimulate private investment into the sub region. This investment is expected to create jobs and wealth in the sub-region. Given projected demand for low cost sustainable energy and Nigeria's considerable natural gas reserves, the pipeline extension to other sub-regional markets appear likely in the future. This will bring additional economic benefits that are yet to be estimated.

The construction of the pipeline started in 2005. The pipeline was scheduled to start operations on 23rd December, 2007, but could not after leaks were detected in the supply pipelines in Nigeria. The pipeline was commissioned on the 13th of May, 2008. It has been ready for gas transmissions since the 14th of December, 2008. When completed, the West Africa gas pipeline will transport natural gas from the Lagos terminal in Nigeria to three delivery points in Cotonou - Benin, Lome – Togo and

Tema – Ghana a distance of about 681km. The West Africa Gas Pipeline is expected to take care of gas transmission throughout the West Africa sub-region. It commenced full operations in 2011.

Trans-Sahara Gas Pipeline

This project has been described as a veritable vehicle for strengthening the bilateral economic relations between Nigeria, Niger and Algeria. On the 4th of January, 2002 the Memorandum of Understanding for the preparation of this project was signed by Nigeria National Petroleum Corporation and Sonatrach. In June 2005, NNPC and Sonatrach² signed a contract with Penspen Limited for a feasibility study of the project which was estimated to cost about \$15bn. The pipeline will start from Southern Nigeria and run through Niger to Hassi Mel in Algeria. In Hassi Mel, the pipeline would be connected with the Algerian export system to supply Europe via Trans-Mediterranean, Maghreb-Europe, Medgraz and Gabi pipelines. The length of the pipeline would be about 4128 kilometres. The Nigerian section would be 1,037 kilometres, Niger 841 kilometres, Algeria 2,310 kilometres. France's Total and Russia's Gazprom are interested in participating in the project. The project is expected to cost about \$12 billion for the pipeline and \$3 billion for the gathering centres. It is intended to deliver 20 to 30 billion cubic feet of natural gas from 2015.

² Sonatrach is an Algerian government owned oil company

Exportation of Crude Oil and Gas

Exportation of Crude Oil

Most of Nigeria's crude oil is exported to foreign consumers of which the United States of America is pre-eminent.¹ Prior to the discovery of Shale Oil in the U.S. the U.S. imports over one million barrels of crude oil from Nigeria per day.² The light, sweet character of Nigeria's crude oil makes it a preferred gasoline feedstock.

The discovery of shale petroleum in the U.S. in 2013 threatened the volume of crude oil exported by Nigeria to the U.S. But the threat the discovery of shale petroleum in the U.S. poses to Nigeria's crude oil export to the U.S. may take some time to translate into a severe reduction in U.S. oil importation from Nigeria. This is because of lack of infrastructural facilities for refining shale oil in the U.S. and also because of the high cost of refining Shale oil which has made it unavailable in the U.S. market thereby making the importation of crude oil from Nigeria imperative.³

Another threat to U.S. importation of Nigeria's Oil is that the icy region of Alaska which has been off limits for oil companies is now open to oil exploration and production by Shell Petroleum. Alaska region is known for its prodigious oil fields. It is one of the few regions in the world that oil rises to the surface by natural rather than by artificial pressure. If Shell, due to sink its first exploration well in Alaska icy region in June 2014, finds oil in huge commercial quantities, this will certainly lead to a drop in U.S importation of Nigerian oil.

Pursuant to achieving energy security, the U.S. Interior Department in 2014 opened the door for searching for oil and gas off the Atlantic coast. Using undersea seismic surveys, oil and gas are to be searched for and if found secure the U.S. from oil importation, generate investment in the U.S economy and provide jobs.⁴

Environmentalists condemned the move of the Interior Department allowing for exploration of the Atlantic Ocean for oil and gas. They contended that allowing for exploration of the Atlantic Ocean for oil and gas could be a death sentence for many

¹ Generally export of crude oil is illegal. However, an exception may be made that allows for exporting of crude oil. It is interesting to note that when such exception is made and crude oil is exported from the U.S, the U.S at the same time be importing crude oil from other nations.

² See Daily Independent 16th Oct. 2013 p. 2

³ Ibid

⁴ See Sweetcrude Newspaper March, 2014 p. 8

marine mammals and is needlessly turning the Atlantic Ocean into a blast zone. According to Oceana and other environmental groups, the intense noise from seismic exploration could kill and injure thousands of dolphins and whales.⁵

Despite the protests of environmentalists however, indications were that the U.S. Interior Department desperate for energy security, would push forward with seismic exploration for oil and gas in the Atlantic Ocean. The Department engaged the services of marine scientists who dismissed the outcry of environmentalists as the *Flipper syndrome*⁶ or the *Free Willy*⁷ tendencies of environmentalists.

If the U.S. exploration for oil and gas in the Atlantic Ocean discovers oil and gas in huge commercial quantities, this will also reduce the quantity of crude oil the U.S. imports from Nigeria. This is yet another front that U.S. oil importation of Nigerian crude oil is threatened.

Perhaps the only cheering news for Nigeria in the event of an eventual significant drop in U.S. importation of its crude oil will be that big economies like China and India whose volumes of oil consumption match that of the U.S. may import what the U.S. will not import, that is if they also do not find huge oil reserves in their countries.

Subject to OPEC quota, Nigerian law allows export of crude oil unlike U.S. law that makes export of crude oil without licence illegal. While OPEC may limit export of crude oil by Nigeria to the quota allotted to the country, export of oil by the country is a fundamental condition for the country remaining a member of OPEC. It is fundamental requirement for OPEC membership for its members to be net exporters of petroleum. It was for this reason that Indonesia had to withdraw its membership of OPEC when it became a net importer of petroleum.

Exportation of Gas

The exportation of liquefied natural gas in Nigeria commenced in 1999 with the establishment of the Nigeria Liquefied Natural Gas Company at Brass, Bayelsa state. From that time to 2012, the nation made over 9 billion dollars from exportation of gas. This amount is Nigeria's share from operating six trains of the Nigeria liquefied natural gas.⁸ As at 2012, Nigeria accounts for about 8% of global liquefied natural gas supplies. The six trains of the nation's liquefied natural gas project at Brass has a capacity of delivering for export 22 million tonnes per annum of liquefied natural gas and up to 5 million tones per annum of natural liquids.

The Liquefied Natural Gas at Brass would have been a cash cow from which Nigeria would have been milking a lot of cash. Unfortunately, the nation's stake in the

⁵ Ibid p.8

⁶ A flipper syndrome is the tendency to react from instinct rather than from reasoned thinking.

⁷ Free Willy is an attachment to an attitude that does not always reflect reason.

⁸ Unfortunately the Nigerian government has sold its shareholding in the Eleme Liquefied Natural Gas Project at a low price leaving foreign private investors to reap where the nation has sown.

project was sold to a private Indian company that is now milking a cow the Nigerian state invested so much to breed.

The PIB provides that any export of gas shall require a gas export licence issued by the Downstream Petroleum Regulatory Agency for a certain volume of natural gas for a specified period of time.⁹ Any company intending to export gas, shall submit an application for a gas export licence to the Agency. The Agency may refuse an application for a gas export licence if the Agency is of the view that the export is not in the national interest or on the ground that the applicant has not complied with its domestic gas supply obligation.¹⁰ Like U.S. law makes illegal export of petroleum without a licence, gas export from Nigeria without meeting the domestic gas obligation should have been made illegal by the Petroleum Industry Bill.

⁹ Section of the Petroleum Industry Bill

¹⁰ Ibid section 273 (3) and 272 (1)

Importation of Refined Oil and Processed Gas

Importation of Refined Oil

Because of the inability of Nigerian refineries to refine Nigeria's crude oil, the country has to be importing refined petroleum from other nations. If Nigeria could refine crude oil sufficient for domestic consumption, importation of refined petroleum with its colossal cost would have been avoided. Being a refined petroleum importing nation, a legal infrastructure to regulate importation of refined petroleum into the country has been generated to regulate importation of refined petroleum.

The 1969 Petroleum Act provides that the Minister of Petroleum shall regulate the importation, handling, storage and distribution of petroleum products.¹ The Minister is empowered to prohibit importation of petroleum or petroleum products except at specified ports or places, to prescribe the notice to be given and the person by which the notice would be given on arrival at a port of a ship carrying petroleum or petroleum products or cargo, to define dangerous petroleum and petroleum products and provide for examination and testing of petroleum products.² The power conferred on the Minister in the above provision is to ensure orderly movement of imported petroleum products and also to ensure the Minister keeps track of such movements. The power vested in the Minister to prescribe the notice to be given and the person to give the notice also aims at achieving order. The ministerial power of defining dangerous petroleum and dangerous petroleum products and of examining and testing petroleum and petroleum products is a very useful power that checks the importation of poisonous petroleum and petroleum products. Under the Abacha regime, PPMC imported several times poisonous petroleum into the country with the then Minister of Petroleum unfortunately failing to subject the imported petrol to examination and test. This raises the issue of sanctions against a Minister that fails to carry out all or any of the critical duties imposed on him by the legal provision under consideration. It is unfortunate that there is no legal sanction against such a minister other than that he might be removed by the President that appointed him.

¹ See section 9 (1) (e) of the Petroleum Act.

² See section 9 (1) (e) of the Petroleum Act.

Importation of Processed Gas

Nigeria does not import gas. The reason for this is largely the low gas demand in the country. Because of low gas demand, most of the gas produced in the country is exported. Nigeria is the sixth largest world producer of liquefied petroleum gas producing over three million metric tons annually. However, current per capita consumption of gas in Nigeria is about 0.8kg per annum. This is the lowest in sub-Saharan Africa. Annual liquefied petroleum gas consumption in Nigeria for 2010 was put at 120,000MT, whereas in Lagos alone there is a potential market for 1,000, 000 MT annually.

Ignorance, economic and infrastructural factors account for low gas consumption in Nigeria. Rural people are not even aware of domestic gas as a fuel. Beyond wood fuel, the only other fuel they know is kerosene. Urban dwellers that know of gas as fuel are hamstrung by poverty from using it. However, perhaps the biggest inhibition to the use of gas by domestic gas consumers is lack of infrastructures for the delivery of gas to such consumers. Elsewhere, gas is piped to people's houses which makes it accessible to anyone with some means to tap into. In Nigeria, gas is supplied in cylinders which make it accessible to only the rich. If gas were piped, it would be accessible to the poor as electricity that is wired past their homes. The Petroleum Industry Bill however looks set to change this. Under the new law with its Domestic Gas Supply Obligation (DGSO), gas will be piped to people's houses the same way electricity is wired to them.³ This will significantly change the low gas consumption in the country thereby boosting the nation's gas earnings.

³ See section 230 – 263 of the PIB

PART E

Economic, Political, Environmental and Social Impacts of the Nigerian Oil and Gas Industry

Economic and Political Impact of the Oil and Gas Industry

Economic impact

Prior to the discovery of oil, Nigeria like many other African countries strongly relied on agricultural exports to other countries for its economic development. Because Nigerians were possessed by agricultural products as the only commodities to be sourced and sold, when Nigerians in the Niger Delta region of the country saw oil explorers in the region going into the forest prospecting for crude oil, they thought they were looking for palm oil. With the discovery of oil, however, the agricultural sector of the Nigerian economy has since been relegated to the background.

Because of the negative impact of the oil and gas industry on other sectors of the nation's economy such as agriculture, in February 2013, the Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA) claimed that the oil sector of the country "is killing the nation's economy". NACCIMA's Director General Dr John Isemeye said the oil sector is affecting businesses in the country negatively by failing to add real value to them. He said the oil sector has caused substantial decline in agricultural exports, which began in the mid-1960s and continued to date.¹

Since the 1970s, rents collected by the Nigerian state from oil companies have always outstripped the cost of producing the oil. From 1970 to 1999, oil generated almost 231 billion dollars. Since 1974 oil rents constitute between 21 and 48 per cent of Nigeria's GDP. Unfortunately however, oil rents have over the years failed to significantly reduce poverty in the country. While oil rents balloon the nation's GDP, its per capita income keeps shrinking. Corruption is largely to be blamed for this. Had the nation's oil rents from the time the Nigerian government began collecting it been invested in a Fund that yields a five per cent interest rate, by 1999 the Fund would be worth 454 billion dollars. This sum if shared to Nigerians, each Nigerian would receive 3.750 million dollars.

The fluctuation in oil prices has had destabilizing impact on execution of government projects and programs and even in funding recurrent expenditure. In a given year, the government may receive about 90 per cent of its revenue from oil only

¹ Allafrica.com/stories/htm

to receive something far less in the succeeding year. For instance, because of high oil prices, government spending rose from 8.4% in 1972 to 22.6% in 1975 only to drop to 14.2% in 1978 because of falling oil prices.²

Based on the current condition of the Nigerian economy, it will for a long time remain dependent on oil revenues. By 2013, the nation's proven reserve was conservatively put at 37.5 billion barrels.³ At current rate of exploitation of about 2 million barrels per day, these reserves alone would last between 34 and 45 years. If loss of crude oil through theft of crude oil, vandalization of pipelines and other oil installations, equipment failure, corrosion of oil pipelines that lead to oil spills is added to daily oil exploitation in the country, oil reserves in the country as at 2013 will last half the time mentioned above. A consolation to this dark forecast of the Nigerian oil industry may be the nation's evolving capacity to liquefy natural gas which is more abundant in the country than crude oil. The nation's capacity to liquefy and export gas will not only further raise oil and gas revenues but prolong the period the nation will remain in business in the oil and gas sector.

International demand for Nigeria's energy supplies will almost certainly remain strong. World energy demand is predicted to rise more than 50 per cent over the next two decades. Demand for gas in particular is expected to rise quite rapidly. The high quality of Nigerian oil and the country's location outside the volatile Persian Gulf, suggest that global demand for the nation's oil and gas will remain over the next several decades. While this may be good for the petroleum sector, it may not necessarily be good for the health of the Nigerian economy.

Onshore/Offshore Dichotomy Abolition

The original position of Nigerian law on revenue derivation from oil and gas producing states was that only oil and gas derived from onshore a state was attributable to the state and therefore 13% to be allocated to the state from the federation account pursuant to the principle of derivation would be based exclusively on oil produced from onshore that state. Any oil offshore was exclusively the property of the federal government and no oil producing state could lay claim to revenue accruing from such oil. When this was the case, there were less suits by states against each other or against the federal government driven by a quest for derivation revenue. In 2002 however, the above legal position was abolished by the Onshore/Offshore Dichotomy Abolition Act, which for purposes of revenue allocation pursuant to the derivation principle abolished to a limited extent the dichotomy between onshore and offshore oil by entitling oil producing states to 13% revenue from offshore oil produced within 200 metres depth isobaths. The implication of this law is that any oil well that is beyond the stipulated water depth still belonged exclusively to the federal

² www.caltex.com

³

government of Nigeria and no state can lay claim to it. This was the reason some people of the Niger Delta criticized the law saying it is crap from ink to paper.⁴ According to such people, The Onshore/Offshore Dichotomy Abolition Act while appearing to give so much to oil producing littoral states, gives so little. According to them, much offshore oil comes after 200 metres depth. They alleged that whatever oil reserve may be laying within 200 metres depth will be directionally drilled and produced from semi-submersible rigs anchored in deeper waters. The revenues thus generated would be lumped with those from oil produced from depths greater than 200 metres and nothing will go to the oil producing states. In their view, the entire law is a farce.

Indolence and greed easy oil money produces has created a great level of terror and conflict in the Niger Delta region. During Peter Odili's time as Governor of Rivers state, Niger Delta youths were armed to combat the Governor's perceived enemies. This led to the degeneration of violence in the region.

Niger Delta indigenes believe that they have not been able to see the economic benefits of oil companies operations in the region, which has generated mind boggling wealth for the oil companies. So resentment and anger comes to them naturally. With resentment and anger comes violence.

Political impact

When Isaac Adaka Boro in the mid 1960s led a 12-day revolt of Ijaw villagers, Gowon cashing on anti Igbo sentiments in the region quickly freed Boro and co-opted his movement into the civil war against the Igbo that claimed that Niger Delta as part of their territory. What was a genuine agitation against the federal government oppression degenerated into an anti-Igbo affair that was to characterized political activities in the region for some time. The creation of new states for the oil producing minority people freed them from Igbo domination but also came with a false sense of belonging that lasted till the 1980s. During this period, the Niger Delta elites were the most consistent Southern allies of the politically dominant far north. During this period, important oil rich communities were transferred from Igbo states to the minority states of the Nigeria Delta in periodic boundary adjustments that characterized the 1970s. Very few incidents of agitation took place between the Boro insurgency and the early 1990 despite the fact that very little oil revenues were actually channelled to the region.

However, with the passage of time, the region began to become resentful of the far north which leadership of the country the region claimed is stealing its oil. Despite the enactment of Decree 36 which entitled them to a certain percentage of oil revenues, the creation of Oil Minerals Producing Areas Development Commission (OMPADEC), the creation of the Niger Delta Development Commission (NNDC) by

⁴ www.gasandoil.com

the Nigerian federal government, hatred and anger continued to fester in the hearts of Niger Deltans. The Abacha's government trial, conviction and execution of Ken Saro Wiwa and other eight Ogoni men from the Niger Delta finally made the anger and resentment of the region to boil over leading to militancy and insurgency. Though in 2009, the President was from the region, the region remained restive.

Insurgency, calls for secession, attempts at secession in Nigeria has in most cases been triggered by desire to own and control oil wealth. The Biafran attempted secession, for instance, was triggered by a desire by the Igbo to take over the oil wells of the Niger Delta. Niger Deltans and indeed most of southern Nigeria believe that but for oil in the Niger Delta, the north would have long seceded from the rest of the country.

Petro-politics is politics in which petrol plays a central role. Petro-politics petro-capitalism, petro-revenues, and petro-violence are various element of petroleum driven economy – that of Nigeria in particular.

Corruption, neglect of its social responsibilities by Nigerian government in the form of health care, free schools, functional electricity and IMF conditionalities that led to removal of subsidies, laying off of workers, fall in oil prices all helped to spark off the crises in the Niger Delta. The crash in oil prices had more drastic impact on Nigeria than on any oil producing nation because of the nation's extreme reliance on oil rents, low investment on capital projects, low external resources, monumental corruption and a teeming population.

In all, oil has more of a destabilizing impact on Nigeria than a stabilizing impact. Without oil, the nation would have been less corrupt, more peaceful and indeed more prosperous.

Corruption

Easy money generated by petroleum has led to monumental corruption in the Nigerian oil industry. Corruption in NNPC includes diversion of crude oil and project funds. Under-reporting of crude oil output, inflation of contracts and importation of substandard fuels, illegal sale of crude oil and securing of term contracts with NNPC corrupt influence are other means of corruption in the Nigerian oil sector. Most of this corruption takes place between the Nigerian government and NNPC.

The Okigbo panel appointed by Abacha to probe the management of revenues from Nigeria's oil export during the Babangida years reported that 12 billion dollars Gulf war oil windfall disappeared into special accounts Babangida created as the sole approving authority. Outright fuel theft popularly known as oil bunkering is another source of corruption. A 2003 estimate put the quantity of stolen crude oil in Nigeria in that year at 200,000 barrels per day.⁵ It was reported in 2003 that profits from stolen

⁵ *ThisDay* newspaper 6th December, 2012, p.1

oil exceeded that from the formal market. It is unlikely that bunkering would have been so successful and widespread without the collusion of NNPC officials. In 2005 two navy admirals were court-martialled for complicity in the disappearance of a Russian tank arrested for bunkering. Simulated refined products shortages in the domestic market have provided opportunity for massive fraud in NNPC.

Lack of metering equipment in product transfer pipelines to depots in Port Harcourt refinery prevents proper accountability. Frequently, huge quantities of crude oil go missing between PPMC and the refineries.⁶

NNPC officials who sabotage the refineries to promote importation benefit from their sabotage in three main ways. First, funds for maintaining the refineries go into their private pockets guaranteeing low capacity utilization or complete breakdown and inevitable shortages. Secondly, heavily inflated refined petroleum supply term contracts and import licences are awarded to their cronies. Thirdly, bribes are also collected from retailers of imported refined petroleum who pass the cost to the consumers. The process for the importation of refined petroleum including the tendering, bidding and procurement process, fall short of good practices and standards.

Perhaps the most bizarre display of greed took place during the Abacha years. Sometimes the little fuel produced by the struggling refineries was tanked offshore then returned to Nigeria's harbour as imported fuel and sold at inflated prices. This way massive investment in the refineries returned nothing to the nation.

Corruption has also played out in the area of high profile contracts. For instance, award of oil fields concessions is an important vehicle of graft in the industry since Babangida's regime. The allocation of oil blocs to indigenous companies was a way leaders help cronies and acquired resources by proxy. Abacha awarded several choice blocs to his partners the Lebanese Chagouri brothers. Dan Etete a former petroleum minister awarded oil blocs to his Malabu oil.

The Petroleum Trust Development Fund (PTDF)⁷ was established for the nation's monetary receipts from signature bonus, royalties, licensing and other fees from crude oil and gas to be lodged for purposes of manpower development. Atiku Abubakar as Vice President of Nigeria and as Chairman of the PTDF misappropriated the money of the Fund. Obasanjo removed him and appropriated most of what was left of the Fund. Obasanjo without due process awarded OPL 291 adjoining Chevron prolific Agbami oil bloc to Star Crest belonging to Emeka Ofor his crony. Transnational Corporation (Transcorp) in which Obasanjo was a shareholder was granted four oil blocs namely: OPL 218, 219, 209 and 220.

Only the Buhari and Shonekan regimes showed any commitment to anti corruption in the oil industry. These two regimes' anti corruption commitment was a major factor in their overthrow.

⁶ Ibid.

⁷ PTDF is used to train engineers that work for NPDC

In 2005 dozens of oil prospecting licences were bidden for. The objectives of the bidding rounds were not realized because the bidding process was manipulated to meet specific ends. Transparency and due process were missing. Nigerian oil companies known as local content vehicles (LCVs) took shareholding of up to 10% in all bidding consortia. Large foreign companies and large Nigerian firms that were big enough to bid in their own right were expected to partner with LCVs. The aim of the local content vehicles is to give opportunities to local investors in the oil sector dominated by foreign companies. By working alongside more experienced and larger oil companies, the theory was that these LCVs would gradually acquire technical knowledge of the oil industry. However, the policy could not be applied in practice partly because government was swarmed by too many companies applying to be LCVs, many of which lacked any real technical expertise. Lack of transparency around the bidding process contributed to suspicion that rather than helping to create technology and knowledge transfer and build the capacity of an indigenous Nigerian oil industry, the bidding was used to distribute oil patronage.

In May 2008 Willbros Group Inc a U.S company admitted making corrupt payments totalling 6.5 million dollars to officials at the NNPC and its Corporate Service Unit NAPIMS in return for assisting the Group obtained and retained contracts for works on the Eastern Gas Gathering System (EGGS). Also ABB Vecto Gray a U.S and U.K company in July 2004 admitted to paying over 1 million dollars in bribes to officials at the NNPC and NAPIMS in exchange for obtaining confidential bid information and favourable recommendations.

Environmental and Social Impacts of Oil and Gas Industry on Host Communities

The Niger Delta Region

There are eight states of the Niger Delta namely: Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Rivers and Ondo. In land mass the Niger Delta comprises of 70,000 km² of wetlands formed primarily by sedimentary depositions. Home to 20 million people and 40 different ethnic groups, the Niger Delta makes up about 7.5% of Nigeria's total land mass. It is the largest wetland and maintains the third-largest drainage area in Africa.¹ The Delta's environment can be broken down into four ecological zones namely: coastal barrier islands, mangrove swamp forests, freshwater swamps, and lowland rainforests. This incredibly well-endowed ecosystem, contains one of the highest concentrations of biodiversity on earth, in addition to supporting abundant flora and fauna, arable terrain that can sustain a wide variety of crops, economic trees, and more species of freshwater fish than any ecosystem in West Africa.

Oil Production and Environmental Pollution

Production of petroleum produces drilling mud, cuttings and water which have to be treated before being released into the environment. Associated risks in oil industry operations include well blow out, tanker accident, storage tank failure, pipeline failure, etc. Some of the great causes of oil pollution in the Niger Delta in particular and in the world in general are discussed below.

Illegal Refineries

A lot of pollution in the Niger Delta flows from the numerous illegal refineries that span the region. The illegal refineries in the region are about eclipsing the flow stations, the leaking pipelines and blowing out oil wells in polluting the region. Because the proprietors of these refineries do not know how to safely dispose of the waste residues from refining process, pollution from these refineries is huge.

By 2012, the four-acre site of the Bolo community illegal refinery stank of oil and may never recover. It was saturated with waste oil; the palm trees were blackened by

¹ www.nigerdeltawetland.org

fire and there were no fish in the waterways. Rusting pipes, burned-out oil drums and old metal tanks littered several acres of what was once a lush farmland.

Community chiefs blamed the oil companies and government for the pollution rather than the refiners. According to a Bolo chief:

There's a heavy level of unemployment here. People know what is happening to the environment, but what is the alternative for the young men? The illegal refineries were set up as a direct result of the wickedness of Shell and the oil companies who polluted the waterways and never compensated us. The refineries have been destroyed but they will come back. How long can you keep armies to police these communities? We would never have allowed these refineries to come into our area if we had been properly compensated. You cannot abandon people like this. If there was work here, no one would have made this pollution.

Oil Spills

The Nigerian Senate in November, 2012 reported that Nigeria has the highest number of oil spill incidences among oil producing countries. Sadly no penalty attached to such spills.² The staggering volume of oil spill in the Niger Delta is unacceptable when considered against the fact that oil spill is not a necessary consequence of oil exploration and exploitation, but the result of the carelessness of the oil industry, which can perhaps be best encapsulated by a 1983 report issued by the NNPC, long before popular unrest surfaced in the Niger Delta against oil spills in the region. According to the report:

Oil spills in Nigeria are a common occurrence; it has been estimated that between 9 million to 13 million barrels have been spilled since oil drilling started in 1958. The government estimates that about 7,000 spills occurred between 1970 and 1980/mmm. Causes include corrosion of pipelines and tankers which accounts for 50% of all spills, sabotage (28%), and oil production operations (21%), with 1% of the spills being accounted for by inadequate or non-functional production equipment. A reason that corrosion accounts for such a high percentage of all spills is that as a result of the small size of the oilfields in the Niger Delta, there is an extensive network of pipelines between the fields. Many facilities and pipelines constructed to older standards are poorly maintained and have outlived their estimated life span. Sabotage is performed primarily through what is known as "bunkering", whereby the saboteur taps a pipeline, and in the process of extraction sometimes the pipeline is damaged.

² See *Vanguard* 14th November 2012 p.1

The Nigerian National Petroleum Corporation placed the quantity of petroleum spilled into the environment yearly at 2,300 cubic meters with an average of 300 individual spills annually.³ However, because this amount does not take into account *minor* spills, the World Bank argues that the true quantity of petroleum spilled into the environment in Nigeria could be as much as ten times the officially claimed volumes.⁴ The largest individual spills include the blowout of a Texaco offshore station in 1980, which spilled an estimated 400,000 barrels of crude oil into the Gulf of Guinea and Royal Dutch Shell's Forcados Terminal tank failure which produced a spillage estimated at 580,000 barrels.⁵ In 2010 Baird reported that between 9 million and 13 million barrels have been spilled in the Niger Delta since 1958.⁶ One source even calculated that the total amount of petroleum in barrels spilled between 1960 and 1997 is upwards of 100 million barrels.⁷

Like the NNPC and the World Bank, the Department of Petroleum Resources has estimated that about 1.89 million barrels of petroleum were spilled into the Niger Delta between 1976 and 1996 out of a total of 2.4 million barrels spilled in 4,835 incidents.⁸ A UNDP report states that there have been a total of 6,817 oil spills between 1976 and 2001, which account for a loss of three million barrels of oil, of which more than 70% was not recovered.⁹ About 69% of these spills occurred offshore, a quarter in swamps and 6% on land. Some spills are caused by sabotage and theft of crude oil. However, most spills are due to poor maintenance of pipelines by oil companies and operators contrary to the stipulations of the Oil Pipelines Act and Regulations made pursuant to the 1969 Petroleum Act. DPR required by Regulations to inspect maintenance of the pipelines hardly performs its duty.

In sum, corrosion of oil pipelines, cost cutting decisions by oil companies and sabotage are the main causes of oil spillages in the Niger Delta. Cost cutting decisions by Shell BP were suspected to be responsible for the Gulf of Mexico oil spill in 2010. The Gulf of Mexico oil spill also known as the Macondo blowout occurred in 2010 in Shell BP Macondo prospect. The spill occurred because of the explosion and sinking of the deepwater horizon rig on 20th April 2010. A sea-floor oil gusher spilled oil for 87 days until it was capped on 15th July 2010. When the explosion happened, quick fixes were tried to stop the spill, but none worked. First, a sub-sea hot stab¹⁰ was used, but it could stanch the spill. A containment dome was lowered on the deepwater riser,

³ C.Nwilo and O.T Badejo, *Impact of Oil Spills along the Nigerian Coast* (Journal of Environmental Health, 2011)

⁴ Ibid

⁵ Ibid.

⁶ Pollution in the Niger Delta, Vanguard Newspaper February 13, 2010

⁷ Ourworld.unu.edu/en/niger-delta-oil-spills-cleanup-will-take-30 years

⁸ Ibid

⁹ Ibid

¹⁰ A sub-sea hot stab is a high pressure subsea connector used to connect into mud to stop oil from spilling.

but it could not stop the spill. Topkill using mud¹¹ shot down the riser with a power hose was used but it failed to stop the leak. Topkill using junk¹² shot down the riser also failed to stanch the spill. Relief wells¹³ were attempted to stop the spill, but the haemorrhaging well kept pouring out oil. It was a cap that eventually stopped the spill. The failure of the various measures to stop the spill made people to agitate for energy sources that do not put the environment to this risk.

Environmental safety decisions by oil companies, assets integrity assessment such as pipeline integrity, well integrity will help curb oil spills and its attendant environmental carnage. Often cost cutting decisions by oil companies are like the companies being penny wise and pound foolish. The Macondo blowout cost Shell BP a mind boggling sum of 42.2 billion dollars in criminal and civil settlements and payments to trust funds.¹⁴

Oil spillage has a major impact on the ecosystem into which it is released. Among other negative impacts, it may lead to ecocide. Immense tracts of the mangrove forests of the Niger Delta vulnerable to oil spills have been destroyed by incessant oil spillage. An estimated 5 to 10% of Nigerian mangrove ecosystems have been wiped out by oil spills. Most of the rainforest which previously occupied some 7,400 km² of the Niger Delta land has disappeared. Spills in populated areas often spread out over a wide area, destroying crops and aquacultures through contamination of groundwater and soils. The consumption of dissolved oxygen by bacteria feeding on the spilled hydrocarbons also contributes to the death of fish. In agricultural communities of the Niger Delta, often a year's supply of food can be destroyed instantaneously by oil spills. Because of the careless nature of oil operations in the Delta, the environment is growing increasingly uninhabitable.

Virtually, every petroleum law in Nigeria contains provisions that seek to prohibit environmental pollution through oil spill. The 1969 Petroleum Act, Regulations made pursuant to it, the Petroleum Drilling and Production Regulations, the Water in Navigable Waters Act, the Terminal Dues Act, the National Oil Spill Detection Response Agency Act are some of Nigerian laws that seek to prohibit oil spill. Except the National Oil Spill Detection Response Agency Act, the provisions of other laws on oil spill have been dealt with in chapter twenty-three of this text dealing

¹¹ The mud is made up of clay, water and some minerals. For the mud to work, it has to be not too thick and not too watery. The mud is shot down in a column to stop the oil from spilling.

¹² The junk is made up of metals and assorted pieces of rubbish. The junk is shot down in a column to stop the oil from spilling.

¹³ Relief wells are used mainly in the oil and natural gas industry. In the oil and gas industry, a relief well is drilled to intersect an oil or gas well that has suffered a blowout. Specialized liquid such as heavy drilling mud followed by cement is pumped down the relief well in order to stop the flow from the reservoir in the damaged well.

¹⁴ Unless moved by conscionable considerations, Shell may seek to recover the money it lost in the Macondo blowout from environmentally less stringent jurisdictions like Nigeria by resorting to cost cutting decisions.

with corporate environmental responsibility and therefore need not be dealt with here again.

The National Oil Spill Detection Response Agency (NOSDRA) was created by the National Oil Spill Detection Response Agency Act to deal with oil spills wherever they occur. The objective of the Agency is to coordinate and implement the National Oil Spill Contingency Plan for Nigeria. It is required to pursue this objective by:

- (a) Safe, timely, effective and appropriate response to major or disastrous oil pollution;
- (b) Identifying high risk areas as well as priority areas for protection and cleanup;
- (c) Establishing the mechanism to monitor and assist, or where expedient, direct the response, including the capability to mobilize the necessary resources to save lives, protect threatened environment and clean up of the impacted site to the best practical extent;
- (d) Maximizing the effective use of available facilities and resources of corporate bodies, their international connections and oil spill cooperatives like Clean Nigeria Associates (CNA) in implementing appropriate spill response;
- (e) Ensuring funding, appropriate and sufficient prepositioned pollution combating equipment and materials, as well as functional communication networks systems required for effective response to major oil pollution;
- (f) Providing a programme of activation, training and drill exercises for personnel to ensure readiness for oil pollution response;
- (g) Cooperating and providing advisory services, technical support and equipment for purposes of responding to major oil pollution incident in the West African sub-region upon request by any neighbouring country, particularly where a part of the Nigerian territory may be threatened;
- (h) Providing support for research and development in the local development of methods, materials and equipment for oil spill detection and response;
- (i) Cooperating with the International Maritime Organization and other national, regional and international organizations in the promotion and exchange of results of research and development programme relating to the development of state of the art oil pollution preparedness and response, including technologies, techniques for surveillance, containment, recovery, disposal and cleanup to the best practical extent;
- (j) Establishing agreements with neighbouring countries regarding the rapid movement of equipment, personnel and supplies into an out of countries for emergency oil spill response activities;
- (k) Determining and prepositioning vital combat equipment at most strategic areas for rapid response; and

- (l) Establishing procedures by which the Nigerian customs service and the Nigerian immigration services shall ensure rapid importation of extra support response equipment and personnel.¹⁵

The Agency has the function of:

- (a) Being responsible for surveillance and ensuring compliance with all existing environmental legislation and the detection of oil spills in the petroleum sector;
- (b) receiving report of oil spillages and coordinating oil spill response activities throughout Nigeria;
- (c) Coordinating the implementation of the Oil Detection and Response Plan as may be formulated, from time to time, by the federal government;
- (d) coordinating the implementation of the Oil Spill Detection and Response Plan for the removal of hazardous substances as may be issued by the federal government.¹⁶

There is no material distinction between the above NOSDRA objectives with the below functions of the Agency. What has caused this duplication is the detailed statement of the objectives of the Agency. Objectives are supposed to be succinct statement of intent, not the elaborate expressions of the NOSDRA Act.

Providing for functions, the NOSDRA Act provide that the Agency shall have the special functions of:

- (a) undertaking surveillance, reporting, alerting and undertaking other response activities as they relate to oil spillages;
- (b) encouraging regional cooperation among member states of the West African sub-region and the Gulf of Guinea for combating oil spillage and pollution in the contiguous water of the West African sub-region and the Gulf of Guinea;
- (c) strengthening national capacity and regional action to prevent, control, combat and mitigate marine pollution;
- (d) promoting technical cooperation between Nigeria and member states of the West African sub-region;
- (e) facilitating the arrival and utilization in and departure from Nigeria of ships, aircrafts and other modes of transport engaged in responding to oil pollution incidents or transporting personnel, cargo, materials and equipment required to deal with such incidents; and
- (f) facilitating the expeditious movement into, through and out of Nigeria of personnel, cargoes, materials and equipment.¹⁷

Generally, the National Oil Spill Detection Response Agency Act (NOSDRA) seeks to prevent oil spillage by oil corporations and where it occurs imposes obligation on corporations to remedy it.¹⁸ The Act requires an oil spiller to report an oil spill to

¹⁵ See section 6 of NOSDRA

¹⁶ Ibid section 5

¹⁷ Ibid section 7

¹⁸ See section 6

the Agency in writing not later than 24 hours after the occurrence of an oil spill. Failure to do so by the spiller is an offence punishable with a fine of five hundred thousand naira (₦500,000) for each day the failure to report the occurrence continues. Failure to clean up the impacted site to all practical extent including remediation, shall attract a further fine of one million naira.¹⁹

The NOSDRA Act is undergoing amendments to ensure the polluter pays principle is well entrenched in it by requiring the spiller to pay the full cost of cleanup and restoring the environment to where it was before the pollution. Also the amendment will establish a comprehensive compensation regime for victims of oil spillage.

Apart from meeting statutorily stipulated standards for the safety of the environment, some oil companies have developed their own safety, health and environmental policy. They also make yearly budgets for environmental related projects.

Gas Flaring

Most of the gas flared (burned) in Nigeria is associated gas, i.e., gas found in association with crude oil. In the course of oil drilling and production, associated gas is encountered leaving the oil company with three options, namely: (i) to separate and utilize the associated gas (ii) to re-inject the gas into the reservoir (iii) to flare (burn) the gas.

The cost of separating associated gas from oil for purposes of utilization is very high and prohibitive for oil companies. The often complicated process of gas separation from oil involves the use and installation of powerful compressors for transmission of the gas. These are expensive to procure. Similarly, re-injection of associated gas into the reservoirs is also a costly venture which must be handled with utmost care and skill. The result is that oil companies are left with the option of flaring which is comparatively cheaper. In Nigeria, oil companies often choose the cheap option – gas flaring.

Gas flaring in Nigeria began simultaneously with oil extraction in the 1960s by Shell-BP. Nigeria flares more natural gas associated with oil extraction than any other country in the world.²⁰ With estimates suggesting that of the 3.5 billion cubic feet of associated gas produced annually, 2.5 billion cubic feet, or about 70% is wasted via flaring, Nigeria's position as the number one gas flaring nation in the world is in no doubt.²¹ The gas flared in Nigeria equals 25% of the UK's total natural gas

¹⁹ Ibid

²⁰ Small reservoirs that makes gas re-injection difficult, too much associated gas, lack of technology to sequester associated gas, lack of gas storage facilities, lack of avenues for gas utilization are the factors that account for the high incidence of gas flaring Nigeria. Perhaps Nigeria is the highest gas flaring nation because it has more associated gas than other petroleum nation, at least as at 2013.

²¹ Foe.co.uk/sites/default/files/gasflaringnigeria

consumption, and is the equivalent to 40% of the entire African continent's gas consumption in 2001.²² Statistical data associated with gas flaring are notoriously unreliable. Be this as it may, Nigeria is likely to be wasting \$2. billion U.S per year by flaring associated gas. Flaring is done because it is costly to separate commercially viable associated gas from the oil. Though oil and gas companies operating in Nigeria harvest natural gas for commercial purposes, they prefer to harvest non-associated gas while flaring or burning associated gas to reduce cost.

Gas flaring is generally discouraged as it releases toxic components into the atmosphere and contributes to climate change. Gas flaring releases large amounts of methane, which has a high global warming potential. Methane is accompanied by other major greenhouse gases such as carbon dioxide. In Western Europe, 99% of associated gas is used or re-injected into the ground to avoid the negative environmental impacts from gas flaring.

Gas flares have potentially harmful effects on the health and livelihood of communities in their vicinity, as they release a variety of poisonous chemicals including nitrogen dioxides, sulphur dioxide, volatile organic compounds like benzene, toluene, xylene and hydrogen sulphide, as well as carcinogens like benzopyrene and dioxins. Humans exposed to such substances can suffer from a variety of respiratory problems like asthma and chronic bronchitis. Benzene known to be emitted from gas flares is known to cause leukaemia and other blood-related diseases. A study done by Climate Justice estimates that exposure to benzene would result in eight new cases of cancer yearly in Bayelsa State alone.²³

Whether or not flares contribute to acid rain is debatable, as some independent studies conducted have found that the sulphur dioxide and nitrous oxide content of most flares was insufficient to establish a link between flaring and acid rain. However, studies from U.S. Energy Information Administration (EIA) report that gas flaring is a major contributor to air pollution and acid rain.²⁴

In the Niger Delta, gas flares are often located close to local communities, and regularly lack adequate fencing or protection for villagers who may risk working near the heat of the flare. Many of these communities claim that nearby flares cause acid rain which corrodes their homes and other local structures, many of which have zinc-based roofing. Some people resort to the use of asbestos-based material, which is stronger in repelling acid rain deterioration. Unfortunately, this only contributes to their own declining health and the health of their environment. Asbestos exposure increases the risk of forming lung cancer, pleural and peritoneal mesothelioma, and asbestosis.

Older flares are rarely relocated away from villages, and are known to coat the land and communities in the area with soot and to damage adjacent vegetation.

²² Vanguard Newspapers July 9th 2013, p.1

²³ www.maxwellsci.com/benzene, visited 28/10/2013

²⁴ www.climatelaw.org, visited 6/1/2014

Almost no vegetation can grow in the area directly surrounding the flare due to the prevailing heat.

In Nigeria, it was reported in 2002 that oil and gas corporations operating in the country emitted more than 34.38 million metric tons of greenhouse gases through gas flaring that year alone.²⁵ This accounted for about 50% of all industrial emissions in the country and 30% of the total CO₂ emissions in the country that year.²⁶ While flaring in the west has been minimized, in Nigeria it has grown proportionate with oil production.

The international community, the Nigerian government, and oil and gas corporations operating in Nigeria are all in agreement that gas flaring by oil corporations needs to be curtailed. Efforts to do so, however, have been limited although flaring has been declared illegal since 1984 under section 3 of Nigeria's Associated Gas Re-injection Act.

While Shell, the biggest flarer of natural gas in Nigeria, in 2004 claimed that only 50% of all associated gas is burnt off via flaring, these data conflicts with the World Bank report in 2004 that, Nigeria flared 75% of associated gas in 2004.²⁷ Shell being the biggest flarer, if the World Bank report is true, Shell must have flared more gas than it claimed.

Shell claims that it has to flare gas in the Niger Delta because the Niger Delta has large number of small oil reservoirs many of which cannot have gas re-injected into them to improve oil recovery.²⁸ This claim of Shell is of doubtful authenticity. If reservoirs are small, perhaps filling them with re-injected gas to generate pressure needed for increased well productivity will be easier.

To reduce gas flaring, the 1969 Petroleum Act vest in the Federal Government the right to take natural gas produced with crude oil by the licensee or lessee free of cost at the flare site.²⁹ The Petroleum (Amendment) Act 1973 also enabled government to collect associated Gas free of charge at the flare sites. The Associated Gas Framework Agreement entered into in 1991 between the Nigerian government with oil corporations introduced a set of financial incentives calculated to encourage utilization of associated gas by the oil companies.

Reasons for gas flaring in Nigeria

Reasons for gas flaring in Nigeria include:

(a) lack of gas processing infrastructure;

²⁵ www.foe.co.uk/.../gas_flaring_nigeria, visited 6/1/2014

²⁶ Ibid

²⁷ *Op. cit.*, 533

²⁸ See www.shellgasflaringnigerdelta. The conventional thing elsewhere is that Instead of flaring or burning gas, it is re-injected into the well to create pressure or it utilize in a gas to liquid technology.

²⁹ See paragraph 35 (i) of the first schedule to the 1969 Petroleum Act

- (b) lack of distribution infrastructure. Gas infrastructure is almost non-existence in Nigeria. So even if gas is processed, there is no distribution infrastructure to take the gas to consumers. So it is flared. However, when the Petroleum Industry Bill comes into effect as law, it may change all these. Also the western gas transmission system, the south-north transmission system, the interconnector system, the West African Pipeline project and the trans-Sahara pipeline project will also ameliorate the problem;
- (c) low gas demand. Demand of gas either for cooking or for industrial processes in Nigeria is low. Low gas demand removes the incentive of generating gas processing and gas distribution infrastructure in the country. Gas by its nature is more traded internally and regionally than oil. The U.S is more likely to buy gas from Canada than from Nigeria. This being the case, it is the existence of an available gas market in Nigeria and the West Africa sub-region that can generate the needed incentive for the development of gas processing and distribution infrastructure;
- (d) lack of storage facilities'
- (e) Preponderance of small oil reservoirs in the Niger Delta that do not allow for gas re-injection.

In *Gbemre v. Shell Development Company*,³⁰ the plaintiffs sued Shell claiming that the Corporation's flaring of gas in their community poisoned and polluted the environment through the release of carbon dioxide and a cocktail of toxins that affected human health and livelihood, exposed people to pre-mature death, respiratory illness like asthma, and cancer. Also that the defendants emitted carbon dioxide that polluted their food and water, caused painful breathing, chronic bronchitis, decreased lung function and death, reduced crop production and adversely impacted on food security, caused acid rain which corroded their corrugated house roofs and which also acidified their lakes and streams killing fishes on which the plaintiffs depended for food. The plaintiffs also alleged that many natives of the community had died and many were suffering various sicknesses as a result of the defendant's gas flaring. The plaintiffs founded their case on sections 33 and 34 of the 1999 Nigerian Constitution which provide for the right to clean, pollution free and healthy environment conducive for human beings to reside in for their development and full enjoyment of life.

Finding for the plaintiffs, the Federal High Court held that the continued flaring of gas in the course of the exploration and production of oil in the plaintiffs' community constituted a violation of their fundamental rights to life and dignity of the human person guaranteed by sections 33 (1) and 34 (1) of the 1999 Nigerian Constitution reinforced by articles 4, 16 and 24 of the African Charter of Human and Peoples Rights (Ratification and Enforcement) Act.³¹ The court granted the

³⁰ (2005) AHRLR 151

³¹ CAP A9 Laws of the Federation of Nigeria 2004.

injunction sought by the plaintiffs by restraining the defendants from further flaring gas in the plaintiffs' community.

The above decision is a pleasant departure from the decisions of courts in cases like *Chinda v. Shell B.P Development Co. of Nigeria Ltd.*³² In this case, the plaintiff's claim for damages against the defendant for gas flaring which damaged the plaintiff's land, houses and economic trees. The court dismissed the claim because the plaintiff could not prove it was the defendant's negligence that led to the gas flaring that damaged the plaintiff's land and economic trees.

The dirty footprints of the oil and gas industry are in the main made by oil spills and gas flaring. The two are the two legs the industry walks the Niger Delta with. It is therefore not surprising that environmental problems generated by oil operations in the region are generated by the twosome.

Oil theft, illegal refineries supply other two legs, the oil industry walks the region unfortunately the other two legs whose dirty footprints are no less fouling are yet to receive legislative and judicial attention the former two legs have received. With these four legs, the monster of oil environmental pollution walks the Niger Delta sure footed.

Statutory legal provisions that seek to prohibit gas flaring have been dealt with in chapter twenty-three of this text. It would be tautological to deal with such provisions again in this chapter.

Litigation

Oil and gas related litigation in Nigeria may be broadly divided into two viz: litigation by the federal government of Nigeria or by oil producing states claiming ownership of oil fields against each other or claiming entitlement to oil and gas revenues, and environmental litigation by host communities which may be subdivided into onshore and offshore environmental litigation. Thus while states go after each other and the federal government for ownership of oil wells and revenues accruing therefrom, host communities go after oil corporations also claiming money for oil environmental damage. The various types of oil and gas related litigation would be discussed here in the order they are referred to.

Oil Producing States litigation against each other and revenue derivation litigation by States against the Federal Government

Though titled *Federal Government or Oil Producing States Litigation against each other* and not *Revenue Derivation Litigation*, the fundamental quest that drives the litigation of the federal government against oil and gas producing states, and such states against each other is revenue. In *Attorney General of the Federation v. Attorney*

³²³² Unreported

*General of Abia state and others*³³ the plaintiff sued the defendants claiming ownership of offshore oil. The Supreme Court upheld the claim of the plaintiff and dismissed the counterclaim of oil-producing states defendants that they were entitled to 13% from the proceeds of oil produced offshore pursuant to the derivation principle. The Supreme Court also dismissed the counterclaim of non-oil producing state that all states of the federation are entitled to 13% from offshore oil wells since according to them, the oil wells belong to the whole Nigerian state.

In *Attorney General Rivers State v. Attorney General Akwa Ibom and Anor*³⁴ the plaintiff sued the defendants over the attempt of the 1st defendant to rescind the agreement entered into between the federal government, Akwa Ibom, Rivers and Cross River states in respect of offshore oil wells. Under the said agreement, the federal government had opted for a *political solution* against a *technical and historical solution*. Based on a National Boundary Commission report submitted to the federal government, the federal government shared offshore oil wells between Cross River and Akwa Ibom 70/14, and between Akwa Ibom and Rivers state 86/86. The parties implemented the agreement for a while until Akwa Ibom sought to recant it, whereupon the plaintiff sued. The Supreme Court held that Akwa Ibom (the 1st defendant) is estopped from recanting its agreement by section 151 of the Evidence Act. The Supreme Court went on to hold that since the agreement between the parties was not obtained by fraud, misrepresentation or deception, Akwa Ibom (the 1st defendant) is estopped from walking away from it. On the whole, the Supreme Court held that Rivers state (the plaintiff) is owner of the 86 offshore oil wells by virtue of the *political solution agreement* between the plaintiff and the 1st defendant. The Supreme Court's decision in this case left Cross River with its 70 offshore wells given to it by the political solution federal government decision because Cross River was still a littoral or coastal state. At the time the case was decided, the International Court of Justice was yet to decide the Bakassi Peninsula dispute between Nigeria and Cameroun which led to Nigeria losing Bakassi to Cameroun and Cross River becoming a landlocked state thereby.

A few years after the decision of the Supreme Court in *Attorney General Rivers State v. Attorney General Akwa Ibom and Anor*,³⁵ the case of *Attorney General of Cross River State v. Attorney General of the Federation and Attorney General of Akwa Ibom State*,³⁶ came in for determination by the Nigerian Supreme Court. At the time the latter case came in for decision, the International Court of Justice (ICJ) had decided the Bakassi Peninsula case against Nigeria and Nigeria had lost the Bakassi Peninsula to Cameroun thereby turning Cross River into a landlocked state that cannot lay claim to 13% revenue derivation from offshore oil wells. Because of the ICJ

³³ (2002) FWLR (pt 10) p.1

³⁴ (2011) 8 NWLR (pt. 1248) p. 31

³⁵ *Supra*

³⁶ Supremw Court 250/2009 nigeriansupremecourtreports_wordpress.com

decision, the decision of the Supreme Court in *Attorney General of Cross River State v. Attorney General of the Federation and Attorney General of Akwa Ibom State*³⁷ was different from the decision of the same court in *Attorney General Rivers State v. Attorney General Akwa Ibom and Anor*.³⁸ The facts of *Attorney General of Cross River State v. Attorney General of the Federation and Attorney General of Akwa Ibom State*³⁹ were that the plaintiff sued the defendants in the Supreme Court claiming entitlement to 13% derivation revenue from 76 offshore oil wells. The plaintiff's case was founded on the *political solution* the case of *Attorney General Rivers State v. Attorney General Akwa Ibom and Anor*⁴⁰ was founded. Unfortunately for the plaintiff however, the International Court of Justice had decided the Cameroun/Nigerian case against Nigeria and the Nigerian government had ceded Bakassi Peninsula to Cameroun thereby turning the plaintiff which before this event was a littoral state into a landlocked state. Without a coast, the plaintiff could not lay claim to any oil well offshore. Accordingly, the Supreme Court held that the plaintiff was not entitled to the 13% offshore derivation it was claiming against the defendants.

Environmental Litigation by Host Communities

Environmental degradation, pollution and corruption in the oil and gas industry over the years had led to protracted and expensive environmental litigation in the Niger Delta. Environmental pollution litigation is common in the Niger Delta. Before now cases were exclusively filed in Nigerian courts. It was unheard of to file an oil pollution matter as indeed any other matter outside Nigeria. But with the passage of time, victims of oil environmental pollution in the Niger Delta seem to lose confidence in Nigerian courts preferring to file their cases against oil multinational corporations in foreign jurisdictions particularly the home states of the oil companies. Though oil environmental pollution cases are still filed by aggrieved oil communities in Nigeria, a sizeable portion of these cases are drifting offshore. It is in recognition of this fact that oil environmental litigation in this text is split into onshore and offshore litigation.

Onshore Litigation

There are quite a number of cases of onshore environmental litigation that arise from the operations of oil companies in the Niger Delta. In fact, until recently, all environmental grievances of oil communities against oil companies were ventilated onshore. By law, persons seised with locus standing to file cases for environmental pollution are the Attorney General either of a state or the federation depending on the nature of the case, the aggrieved victim of oil environmental pollution and to a lesser extent environmental protection Non-Governmental Organizations. Even though the

³⁷ *Supra*

³⁸ *Supra*

³⁹ *Supra*

⁴⁰ *Supra*

Attorney General by statutory empowerment is entitled to file cases against environmental pollution by oil companies that constitute public nuisance, there is no record yet in Nigeria of the Attorney General doing so. Relative to international oil corporations, the reason for this may not be unconnected with the fact that polluting international oil corporations are in joint venture partnership with NNPC the Nigerian government oil company. The Attorney General taking a polluting international oil corporation to court indirectly takes the government that appointed him. Not many Attorney Generals would do so. So cases against oil environmental pollution are filed almost exclusively by aggrieved oil communities. Most of the cases are on oil spillage which pollute fishing ponds, creeks and farmlands.

In *Shell Petroleum Development Co. Ltd. v. Enoch*⁴⁹ the respondent as plaintiff sued Shell for oil spillage from Shell's Andoni manifold which he alleged damaged his land and his crops. The court dismissed the case for misjoinder.

It is submitted with respect that to dismiss a case for misjoinder as the court did in this case is quite regrettable and cannot but raise suspicion of corruption against the judge that so decided. All a misjoinder calls for is an order striking out the name of the party misjoined; no more.

In *Seismograph Services Ltd. v. Saturday Mark*⁵⁰ Mr. Mark a fisherman sued the defendants claiming compensation for his fishing net and boat damaged by the defendants vessel at Akaza waters in Akwa Ibom. He alleged that the vessel tore through his nets, which he affixed to net floaters and buoys to warn approaching vessels of the presence of nets along the line. However, he gave no particulars of the negligent acts of the defendant. The trial judge gave judgment in his favour, holding that the principle of *res ipsa loquitur* applied to shift the burden on the defendants to explain the damage which they did not. The Court of Appeal held otherwise. It held that failure by Mark's lawyer to give particulars of the defendant's negligence in his statement of claim was fatal to his case.

In *Elf Nigeria Ltd v. Opera Sillo*⁴¹ the Court awarded compensation to the Sillo family for loss of fishing rights occasioned by oil pollution in the form of oil spill which poured silt into the tidal rivers where they carried out their occupation as fishermen.

In *Chief Simon Onajoke v. Seismograph Services Ltd*⁴² the plaintiffs' claim of damages for negligence in the defendant's blasting operations succeeded after the court found that there was evidence of same on the part of the defendant which resulted in damage to the Plaintiff's buildings.

⁴⁹ (1992) 8 NWLR (pt. 259) 335

⁵⁰ (1993) 7 NWLR (pt. 304) 203

⁴¹ (1994) 6 N.W.L.R. (Part 350) 258

⁴² Unreported

In *Shell Petroleum Development Co. Nigeria Ltd v. Ambah*⁴³ the Plaintiffs/Respondents claimed the sum of N30 million as damages for the total or permanent destruction of their family's fish ponds, fish lakes, fish channels and creeks lying and situate at Asesaoba near Beniseide oil fields. The said destruction was alleged to have occurred when mud dredged from the land in the possession of the Defendant oil company covered the said fish ponds and lakes. According to the plaintiffs, this incident deprived the entire family of their means of livelihood. There was no doubt that the plaintiffs claim was based on negligence. The Supreme Court held that the plaintiff's case, being one for total destruction of property, namely fish ponds, lakes and channels, as a result of the wrongful act of the Defendant/Appellant, and same having been accepted by the Defendant/Appellant, the Plaintiffs/Respondent's family was only entitled to the market value of the property destroyed and no more. The court further held that it was an error for the Courts below to have awarded the Plaintiffs/Respondents special damages for continuing loss of income from 1976 when the injury occurred until the date of judgment in 1987. This was because the Plaintiff/Respondent never pleaded same, nor was any evidence given in support of same. However, the Supreme Court, did not query the quo warranto basis of the Plaintiff's claim, namely negligence.

In *Shell Petroleum Development Co. Nig. Ltd. v. Tiebo VII & ors*⁴⁴ the Plaintiffs/Respondents claimed substantial damages for the negligence of the Defendant/Appellant oil company, which resulted in a major oil spillage leading to the pollution of the Plaintiff's farmlands, swamps, creeks, river, fish ponds, fishing nets, raffia palms and juju shrines. They claimed specific amounts as damages for loss of fishing rights, loss of drinking water, medical expenses incurred, damage and hazards from the pollution of the environment and general inconveniences.

On quantum of damages, the Supreme Court affirmed the five million naira general damages as compensation for the loss suffered, which was awarded by the trial court as being in order. But it set aside the additional awards of four hundred thousand naira general damages for damage to raffia and six hundred thousand naira general damages for loss of drinking water, for lack of evidence.

On the issue of jurisdiction, the Supreme Court held that the State High Court at Yenagoa, which tried the case had the jurisdiction at that time to do so. The judgment of the trial High Court was delivered on the 27th February 1991. The jurisdiction to do so was only ousted on the 17th November 1993. According to Oguntade J.S.C., who delivered the leading judgment: 'The result is that the Rivers State High Court had jurisdiction to entertain Plaintiffs' suit and that jurisdiction was not in any way impaired between the commencement of the action on 6th June 1988, and the delivery of judgment on 27th February 1991.'

⁴³ (1999) 3 N.W.L.R. (Part 593) 1.

⁴⁴ (2005) 3 – 4 S.C.

It is however, worth noting that the above holding of the Supreme Court is no longer the law on the point. With the coming into effect of the 1999 Constitution, only the Federal High Court has jurisdiction to entertain cases such as *Shell Petroleum Development Co. Nig. Ltd. v. Tiebo VII & ors.*⁴⁵ Under the 1999 Constitution, all matters relating to oil mining or operations, oil pollution, are vested in the Federal High Court.

In *Shell Petroleum Development Co. Nigeria Ltd v. Isaiah*⁴⁶ the Supreme Court was emphatic that only the Federal High Court, and no other court, has jurisdiction under section 251 (1) (n) of the 1999 Constitution, to entertain claims arising from oil spillage and pollution caused by broken pipeline. Oil spillage as a result of pipeline breakage is an incident connected with or pertaining to mines and minerals including oil fields and oil mining matters over which the Federal High Court enjoys exclusive jurisdiction.

In *Shell Petroleum and Development Co. Ltd. v. Cole*⁵¹ the people of Sagbama in the Niger Delta sued Shell for compensation for loss of their fishing rights at the Sagbama creek, which the oil company dredged in 1971 for the purpose of oil production. The trial judge entered judgment in favour of the community. Shell appealed. The then Federal Supreme Court upheld the judgment of the lower court and held that the amount awarded as damages was far less than the loss proved by the community, but could not review the award because the community did not cross appeal on the point.

Defences to the rule in *Rylands v. Fletcher*⁵² particularly that of the act of a stranger is one polluting oil corporations often rely on to escape liability, thereby dampening the zest by polluted host communities to institute environmental actions. In *Shell Petroleum Development Co. Ltd. v. Otoko*,⁵³ the defendants were sued for environmental damage to the plaintiff's land caused by the escape of crude oil from the defendants' pipeline manifold. The defendants pleaded sabotage by a third party claiming somebody tampered with the bolts of the manifold. The Court of Appeal upheld the defendants' plea and absolved them of damages.

Although, it may be argued that legal technicalities are not peculiar to oil environmental cases, the nature of such cases often rake up more technical issues of law than litigation in other fields. A plaintiff suing for environmental harm therefore has to engage the services of a good lawyer to make success of his litigation likely. It cost good money to hire good lawyers.

⁴⁵ Supra

⁴⁶ (2001) 11 N.W.L.R (Part 723) 168. See also *S.P.D.C. v. Maxon* (2001) 9 N.W.L.R. (Part 719) 541; *C.G.S. (Nig) Ltd v. Asaagbara* (2001) 1 N.W.L.R. (Part 693) 155; *S.P.D.C. Nig Ltd v. Lalibo* (2009) 14 N.W.L.R. (Part 1162) 564.

⁵¹ (1978) 3 S.C. 183

⁵² (1868) L.R 3H.L. 330

⁵³ (1990) 6 NWLR (pt.159) 693

Another problem bedevilling environmental litigation in oil pollution cases is the unnecessary protraction of some of these cases. Polluting agencies often employ delay tactics to sap the patience and resources of the plaintiff with the hope of eventually making him abandon the suit or at least delay justice. In either case, the plaintiff runs the risk of justice being denied him in a case that is good for him and the defendant goes home happy that he has perverted justice in a case otherwise bad for him. The case of *Nwadiaro v. Shell Petroleum Development Co. Ltd.*⁵⁴ furnishes an instance in protraction of oil environmental pollution litigation at the instance of the defendant. The case arose from a blockade in 1966 of Uti-iyi efi creek by Shell. The people of Obutu and surrounding villages depended on the creek for fishing and access. The defendant had been negotiating and agreed to pay the community compensation but never did. The community sued in 1985. The company objected to the suit citing the statute of limitation, which provides that actions in torts and contract should be brought within 6 years. The High Court agreed that limitation applied and dismissed the case. The community appealed to the Court of Appeal and succeeded. Kolawole J.C.A. held that from the facts of the case the action was brought under the Petroleum Law which is a special statute that has no time limitation clauses and therefore not subject to limitation laws. The parties negotiated and agreed that the defendant should pay certain amount as compensation which it did not pay. The case was remitted back to the High Court for plenary trials. The matter was re-listed in 1988. Again the defendant filed an application before the High Court for a dismissal of the entire suit which the High Court refused. The defendant again appealed to the Court of Appeal against the refusal of the High Court to dismiss the suit. The Court of Appeal heard the appeal and dismissed it. Justice Morankeji Onalaja in an obiter strongly condemned the delay tactics employed by the defendants in the following words:

The attitude of the learned counsel in still pursuing the appeal lends credence to the boast that legal gymnastics and gimmicks shall be employed to unduly delay payment of compensation to the respondents thereby denying the respondents justice... such act in law is an abuse of process of court.⁵⁵

The attitudes of Nigerian judges to oil environmental pollution litigation, particularly their attitude of awarding paltry sums as damages, also operate as a disincentive to oil environmental litigation in the country. For instance, in *Shell Petroleum Development Co. Ltd v. Tiebo*,⁵⁶ the plaintiffs claimed N64m general damages from the defendant for oil spillage into river Nun from which the plaintiffs

⁵⁴ (1990) 5 NWLR (pt.150) 322

⁵⁵ *Nwadiaro v. Shell Petroleum Development Co. Ltd.* (1990) 5 NWLR (pt.150) 322 at p. 331

⁵⁶ (1996) 4 NWLR (pt. 445) 657

get their drinking water, and also fish and desecration of their juju land among other allegations. Despite the fact that the community was able to prove the alleged damage by calling experienced and knowledgeable expert witnesses, the court awarded a paltry sum of N6 million to the community.

In *Shell Petroleum Development Co. Ltd v. Farah*,⁵⁷ the plaintiff claimed N26m as compensation from the defendant for oil spillage from the defendant's Bomu oil well which damaged about 607 hectares of adjoining farmlands by reducing them to desert. Despite proving the alleged damage, the court awarded the sum of N2.3 million as compensation for loss of use of land, N2m for rehabilitation of the affected land and N250,000 as general damages making a total of N4.6m. The defendant appealed and the Court of Appeal upheld the decision of the trial High Court, holding that:

The respondents' claim is based on the Petroleum Act which provides for the payment of fair and adequate compensation or damages to a person who suffers damage from the tortuous act of another... That principle is to restore the person suffering the *damnum* as far as money can do back to the position he was before the *damnum* or would have been but for the *damnum*.

The natural question here is whether in the case at hand, N4.6m could be a fair and adequate compensation as required by the Petroleum Act. It is submitted it could not be.

In *Mon and Anor. v. Shell B.P. Development Co.*⁵⁸ the judge admitted that the plaintiffs' fish pond had been damaged by the activities of the defendants but held:

There is no evidence what it caused them to dig the pond. They must have spent some money or at least some considerable effort on getting this work done; but if they cannot be bothered to tell me how much this job was worth, then they must be satisfied with my attempt to assess it fairly...I will therefore assess the damage at a figure which I consider to be fair and if the plaintiffs consider it inadequate, they have nobody to blame but themselves.

He awarded N200, 000 damages, an amount grossly inadequate in the light of proof of damage made by the plaintiffs. The relative affluence of oil companies ought to be viewed against the poor conditions of victims of oil environmental harm in determining damages to be awarded in a given case to the victim once he has managed to prove the harm. For the victim, the damaged environment may be his only means

⁵⁷ (1995) 5 NWLR (pt. 398) 561

⁵⁸ (1970) 1 R.S.L.R. 711

of livelihood and if not given sufficient compensation, could leave him without an alternative means of survival.

Apart from the award of damages Nigerian courts do not seem ready to issue injunction against owners of a polluting facility. In *Allar Irou v. Shell B.P Development Co.*⁵⁹ the plaintiff sought for an injunction restraining the defendants from further pollution of his land, creek and fish pond. The Warri High Court in refusing to grant the injunction held:

First, negligence or carelessness by the defendants' employees cannot be controlled by the defendants. To grant the order would amount to asking the defendants to stop operating in the area. The interest of third persons must in some cases be considered. For example, where the injunction would cause stoppage of trade or throwing out a large number of people out of their jobs. Mineral oil is the main source of this country's revenue. The defendants having been granted an oil exploration licence, an order of injunction may render nugatory such licence. It will not be just and convenient to grant an injunction in this case.

The holding of the court in the first line of the above quoted decision must alarm or embarrass any legal mind. If an employer cannot control his employee and therefore cannot be held liable for his negligence or carelessness, who then can control such employee and be held liable for his negligence or carelessness? The holding of the court in this case no doubt stands the law on the liability of the company for the acts of its employees on its head.

With regard to the court refusing to grant injunction in the case under reference, while it is conceded on the authority of *Ezebilo v. Chinwuba*⁶⁰ that detriment suffered by community might be a ground for the court to refuse injunction, it is submitted that a plaintiff's right should not in every case be sacrificed on the altar of public interest. Where public detriment appears slight or speculative and hardship to be suffered by the plaintiff if injunction is refused appears enormous, the court should not refuse to grant the injunction on grounds of 'public interest. For instance, in the case of *Allar Irou v. Shell B.P Development Co.*⁶¹ above, the hardship to be suffered by the plaintiffs as a result of the refusal of the injunction appeared greater than any detriment to be suffered by society if the injunction was granted. The reason is that while the Nigerian economy might be adversely affected if injunction is issued against mining of Nigerian oil resources in general, such fear need not arise in a case like this where the injunction is sought against a particular oil field of the defendants, who, be it noted, are not the only operators in the Nigerian oil sector,

⁵⁹ (Unreported) Suit No. W/89/71

⁶⁰ (1997) 7 NWLR (pt. 511) p.108

⁶¹ (Unreported) Suit No. W/89/71

dominant as they may be. What is more, the oilfield in issue is only one out of many other oilfields mined by the defendant across the Niger Delta. In a case such as this, while the defendants have other oil fields to continue mining, the plaintiffs are likely to have no other land, creek or fish pond from which to continue to eke out a living. The balance of convenience in this case clearly lied with the plaintiff and the injunction ought to have been granted.⁴⁷ To use the grant of oil exploration licence as an excuse to refuse grant of injunction as the court did in this case can hardly be justified. Licence to explore for oil does not include licence to pollute or degrade the environment. The licence for oil exploration, if it is truly a licence, must have conditions attached to it. Such conditions should include a duty not to pollute or degrade the neighbouring environment.

Be the above as it may, what Shell had in the above case was not an exploration licence as the court held, but a mining lease. Indeed, no exploration licence is granted in practice

An alternative to granting injunction would be for the court to ask oil companies in cases like *Allar Irou v. Shell B.P Development Co*⁴⁸ to look for ways and means of reducing environmental hazards arising from their oil operations. Such an order will encourage the petroleum industry to operate under more careful conditions and intensify research into oil pollution control technology.

Lack of justice to victims of oil environmental pollution in the Niger Delta from Nigerian courts has contributed to a great extent to increasing violence and militancy in the region. If people of the region cannot ventilate their grievances in the court and be afforded a relief, they will ventilate them in the creeks and swamps of violence..

Be the above as it may, because of the discouraging attitude of Nigerian courts which like the Attorney General are not beyond suspicion of siding with the oil companies, aggrieved host communities in the course of time lost confidence in the Nigerian judiciary and had resorted to filing their cases in the home states of oil corporations in Nigeria. Host communities which choose to file their cases against polluting oil corporations in foreign jurisdictions instead of in Nigeria where the pollution took place are likely to be met in the foreign jurisdictions of their choice with an objection of *forum non conveniens* by the oil corporations they are suing.

Forum Non Conveniens

Forum non conveniens (FNC) is a Latin expression that means *forum not agreeing*. *Forum non conveniens* is a common law legal doctrine whereby a court may refuse to assume jurisdiction over a matter there is a more appropriate forum available to the parties. As a doctrine of conflict of laws, *forum non conveniens* applies between courts

⁴⁷ *Oduntan v. General Oil Ltd* (1995) 4 NWLR (pt 387) p.1; *Abdullahi v. Mil. Gov. Lagos State* (1989) 1 NWLR (pt. 97) p.356; *A.C.B. v. Awogboro* (1991) 2 NWLR (176) p.711

⁴⁸

in different countries and between courts in different jurisdictions in the same country.

A concern often raised in applications of the doctrine is forum shopping, or picking a court merely to gain an advantage in the proceedings. This concern is balanced against the public policy of deferring to a plaintiff's choice of venue in claims where there may be more than one appropriate jurisdiction.

The laws applied by a particular system of courts or legal system are termed the *lex fori*, or law of the forum. As a matter of civil procedure, courts must decide whether and in what circumstances they will assume jurisdiction over parties and subject matter when a lawsuit begins. This decision will be routine, or not raised at all, if the relevant elements of the case are within the territorial jurisdiction of the court. If one or more of the parties resides outside the territorial jurisdiction or there are other factors which might make another forum more appropriate, the question of jurisdiction must be settled.

The doctrine of *Forum non conveniens* originated in the United States in *Willendson v. Forsoket*⁴⁹ where a federal district court in Pennsylvania declined to exercise jurisdiction over a Danish sea captain who was being sued for back wages by a Danish seaman, stating that if any differences should hereafter arise, it must be settled by a Danish tribunal.

In jurisdictions the FNC rule survives, a court will usually dismiss a case when the judge determines that the dispute would be better adjudicated in a different forum. Australian courts applying the FNC rule do so after balancing the foreign and local factors. In an Australian court, a dismissal would only be granted if the defendant could show that he was "oppressed" or "harassed" by the plaintiff's choice of Australia for legal action.

The doctrine of FNC in Canada was considered in *Amchem Products Inc. v. British Columbia Worker's Compensation Board*.⁵⁰ The Court held that the test for striking out a claim for FNC is where "there is another forum that is clearly more appropriate than the domestic forum." If the forums are both found to be equally convenient, the domestic forum will always win.

Convenience is weighed, using a multi-factored test that includes elements such as: the connection between the plaintiff's claim and the forum, the connection between the defendant and the forum, unfairness to the defendant by choosing the forum, unfairness to the plaintiff in not choosing the forum, involvement of other parties to the suit (i.e. location of witnesses), and issues of comity such as reciprocity and standard of adjudication.

Invoking this doctrine of *forum non conveniens* usually means that the plaintiff properly invoked the jurisdiction of the court, but it is inconvenient for the court and

⁴⁹ 29 Fed Cas 1283 (DC Pa 1801) (No 17,682)

⁵⁰ [1993] 1 S.C.R. 897

the defendant to have a trial in the court the case is filed. The court must balance convenience against the plaintiff's choice of forum. In other words, if the plaintiff's choice of forum was reasonable, the defendant must show a compelling reason to change the forum. If a transfer would simply shift the inconvenience from one party to the other, the plaintiff's choice of forum should not be disturbed.

Generally, a corporation sued in the jurisdiction of its headquarters is not entitled to seek an FNC dismissal. Thus if an American corporation is sued in a jurisdiction it only transacts business but not where it has its headquarters, and the court dismisses the case based on FNC, the plaintiff may refile the action in the jurisdiction of the corporation's headquarters.

In deciding whether to grant the motion to strike out a case for *forum non conveniens*, the court considers:

- i. The location of potential witnesses. The defendant must make a full and candid showing, naming the potential witnesses for the defence, specifying their location, specifying what their testimony may be and how crucial it is for the defence, and setting forth how exactly they may be inconvenienced by having to testify in the court chosen by plaintiff.
- ii. The location of relevant evidence and records. The defendant must identify the records; explain who is in charge of the records, language, and translation problems; address of the volume of such records and rule out the existence of duplicate records in the jurisdiction chosen by the plaintiff. The mere fact that records need to be translated is not sufficient grounds to invoke FNC.
- iii. Possible undue hardship for the defendant. The defendant must explain what the hardship is and how material the costs are. If there are costs involved, they need to be spelled out. If there is a difficulty in getting witnesses out of a foreign court into the court of the plaintiff's choice, this needs to be revealed to the court. The defendant must explain why the use of letters rogatory⁵¹ or other judicial reciprocity tools are not sufficient and cannot replace actual transfer of the case. The standard that the defendant must meet is "overwhelming hardship" if he is required to litigate in the forum's State.
- iv. Availability of adequate alternative forums for the plaintiff. Merely pointing out that the plaintiff could have sued somewhere else is not sufficient to succeed on an FNC motion. The defendant must furnish where else the plaintiff can sue.
- v. The expeditious use of judicial resources. In practice, this is just boilerplate language⁵² that comes along with the application. However, sometimes the court

⁵¹ A letter rogatory or a letter of request is a formal request from a court to a foreign court for some type of judicial assistance. The most common letter rogatory is service of process and taking of evidence.

⁵² A boilerplate language is a uniform language used normally in legal documents that have definite unvarying meaning in the same context that denotes that the words have not been individually fashioned to address the legal issue presented.

chosen by the plaintiff may be logistically or administratively unfit or ill-equipped for the case.

- vi The choice of law applicable to the dispute. If all other factors weigh in favor of keeping the case in the jurisdiction where it was filed, then the court may choose between application of local law (*lex fori*) or relevant foreign law. Thus, the mere fact that foreign law may apply to the event, circumstances, accident, or occurrence is not a strong reason to dismiss the case on FNC grounds.
- vii. Questions of public policy. In analyzing the factors, the subject matter of the complaint may touch on a sensitive issue that is important to the laws of either the original jurisdiction or the alternative forum. Those public policy issues must be pinpointed, analyzed and briefed⁵³ in a way that makes it clear why this issue overrides the other factors. For example, an employee suing a foreign corporation in a state of employment, may enjoy the public policy to protect local employees from foreign abusers.
- viii. The location where the cause of action arose. In most cases, the defendant must usually show that the cause of action arose outside the jurisdiction.
- ix. The identities of the parties. Who is suing who? Is the plaintiff suing an individual defendant or a small company without financial means as a method to oppress the defendant with financial and legal costs by litigating in a remote court? Is the defendant a conglomerate making the FNC application simply to force the plaintiff to bear expensive costs of travel and retainer of foreign lawyers? A plaintiff who is a resident in the state where action was filed is normally entitled to have his case heard in his home state.
- x. Vexatious motive. Where there is no evidence that the plaintiff had improper intent in bringing the case specifically in a particular forum, courts usually denies the FNC motion.
- xi. Jurisprudential development and political conditions at the foreign forum. Is the court going to send the plaintiff to a land where the law is underdeveloped, uncivilized, or where there is no *equal protection* or *due process*? Is the court going to send the plaintiff to another court in a country where violence is rampant or in the middle of a war? A suit will not be dismissed if the foreign court does not permit litigation of the subject matter of the complaint or if the foreign law is deficient in its protocols or procedures.

Usually when a plaintiff sues a defendant in a foreign jurisdiction, if the defendant does not want to be tried in such jurisdiction, he may apply for the case to be dismissed on the ground of forum non convenience. Thus in the case of aggrieved oil host communities suing international oil corporations in foreign jurisdictions instead of in Nigerian courts, such foreign corporations can apply for the dismissal of such cases on the ground of forum non convenience. Fortunately for oil host

⁵³ Critically examined and captured in succinct language.

communities however, is that before the court can grant the application of an oil corporation for the dismissal of a case on the basis of *forum non conveniens*, the oil corporation must establish the conditions in i – xii above, failing which its application for dismissal will not be granted and the case would be heard by the foreign court the aggrieved host community filed it. It seems even when the defendant oil corporation prove some of the conditions, but cannot prove others, the case may not be dismissed for *forum non conveniens*, but would be tried by the court chosen by the plaintiff host community. By their nature, the conditions cannot possibly be all proved by an oil corporation in a given case. This being the case, an oil community suing a foreign oil corporation offshore can always count on the impossibility of oil corporations proving all the conditions that makes for a successful objection founded on *forum non conveniens*. The robust likelihood of oil host communities' cases being heard in foreign jurisdictions will surely lead to an explosion of offshore oil litigation in Nigeria.

Usually, when an oil host community chooses to sue an international oil corporation in a foreign jurisdiction instead of in Nigeria, it raises a derogatory *forum non conveniens* against Nigerian courts. In the foreign jurisdiction it sues the international oil corporation, it is likely to be met with an objection of *forum non conveniens*. In a bizarre irony, what chases the host community from Nigerian courts may chase it from foreign courts.

Offshore Litigation

*Kiobel v. Royal Dutch Petroleum Co.*⁵⁴ was a United States Supreme Court decision in which the court found that the Alien Tort Claims Act does not apply extraterritorially. The plaintiffs in *Kiobel*'s case were Nigerian citizens who claimed that Dutch and British oil-exploration corporations in Nigeria aided and abetted the Nigerian government during the 1990s in committing violations of customary international law. The plaintiffs claimed that Royal Dutch Shell Head office in liaison with its Nigerian subsidiary compelled the Nigerian government to brutally crush peaceful resistance to aggressive oil development in the Ogoni Niger Delta area. The plaintiffs sought damages under the Alien Torts Statute (ATS). The defendants moved the court to dismiss the case on a two-pronged argument. First, they argued that customary international law itself provides the rules by which to decide whether conduct violates the law of nations where non-state actors are alleged to have committed the wrong in question. Secondly, they contended that no international legal norm has ever existed that imposes liability upon corporate actors for criminal acts. On September 29, 2006, the District Court dismissed the plaintiffs' claims for aiding and abetting property destruction, forced exile, extrajudicial killings, and violation of the rights to life, liberty, security, and association. It reasoned that customary international law did not

⁵⁴ 133 U.S Supreme Court, 1659 (2013)

define those violations with sufficient particularity. The court however refused the defendants' motion for dismissal of the claim of aiding and abetting arbitrary arrest and detention, crimes against humanity, and torture or cruel, inhuman, and degrading treatment. The District Court referred its entire order for interlocutory appeal to the Second Circuit based on the serious nature of the questions at issue.

In a 2–1 split decision issued on September 17, 2010, the U.S. Court of Appeals for the Second Circuit held that corporations cannot be held liable for violations of customary international law, finding that: (i) under both U.S. Supreme Court and Second Circuit precedents over the previous 30 years that addressed ATS suits alleging violations of customary international law, the scope of liability has always been determined by customary international law itself; (ii) under Supreme Court precedent, the ATS requires courts to apply norms of international law and not domestic law to the scope of defendants' liabilities. Such norms must be "specific, universal and obligatory"; and (iii) under international law, "corporate liability is not a discernible much less a universally recognized norm of customary international law that the court could apply to the ATS, and that the plaintiffs' ATS claims should indeed be dismissed for lack of subject matter jurisdiction.

Dissatisfied with the decision of the Court of Appeal, Kiobel petitioned the Supreme Court. The Supreme Court unanimously held that the presumption against extraterritoriality under U.S. law applies to claims under the ATS, and nothing in the statute rebuts that presumption.⁵⁵

The Supreme Court further reasoned that nothing in the text, history or purposes of the ATS rebuts the presumption against extraterritoriality. The common law transitory torts doctrine, which holds that causes based on a transitory action arising abroad may be considered as happening domestically, does not help rebut the presumption in this case because that is not what happened in the case. The Court also disregarded a 1795 opinion by George Washington's Attorney General William Bradford, stating that "there can be no doubt" about the tort liability of American citizens who had been plundering inside Sierra Leone. Finally, the Court found it would be implausible to suppose that the First Congress wanted to make the United States a "uniquely hospitable forum for the enforcement of international norms."

Justice Breyer, joined by Justices Ginsburg, Sotomayor and Kagan, concurred with the judgment but rejected the Court's reasoning. The four justices do not believe that the presumption against extraterritoriality applies to the ATS. Instead, their concurrence sees ATS jurisdiction as limited to when the tort occurs on American soil, the defendant is an American national, or when there is an important American national interest, such as not providing safe harbor to *hostis humani generis* or the common enemy of mankind.

⁵⁵ The presumption against extraterritoriality is a canon of statutory interpretation that provides that when a statute gives no clear indication of an extraterritorial application, it has none.

Breyer first attacked the majority's view that the presumption is not rebutted. He notes that while the majority sees the ATS as applying to piracy on the high seas, piracy necessarily occurs aboard a ship and so is considered to occur within the territory of the ship's flag state. Breyer then outlined the long history of an international duty not to provide safe harbor to *hostis humani* generis. He rejected the majority's concern regarding unwarranted judicial interference by U.S courts in the conduct of foreign affairs by other nations noting U.S obligations under the Convention Against Torture, the third Geneva Convention, the International Convention for the Protection of All Persons from Enforced Disappearance, and several other treaties. Ultimately, however, Justice Breyer agrees with the Court's judgment because the mere corporate presence of a foreign defendant who did not directly engage in committing atrocities abroad does not invoke a national interest of denying safe harbour to a common enemy of mankind.

Bowoto v. Chevron Corp.

The *Bowoto v. Chevron's case*⁵⁶ brings to the fore the responsibility of the state to protect international investment domiciled in it. The facts of the case were that between May 25th and 28th 1998, about 100 protesters from Bowoto community in the Niger Delta occupied a Chevron offshore drilling rig and construction barge located in the Niger delta. The occupation of the barge was sequel to complaints against Chevron's regional business activities, which Bowoto community claimed had negative environmental and social impacts on it. The community claimed it has several times sought cessation of Chevron's operations, reparations, and cleanup to no avail. Whereupon, it embarked on the protest that led to the seizure and occupation of the corporation's barge. Thereupon Nigerian government security forces forcefully dislodged the community protesters from the barge. The community alleged that the security forces shot four protesters, killing two, capturing and torturing a fifth.⁵⁷ It further alleged that on Chevron's claim that the protesters were kidnappers and extortionists who held 175 people hostage for three days, Nigerian government security forces launched an assault on the villages of Opia and Ikenyan, on 4th January, 1999, shooting civilians and setting buildings on fire.⁵⁸

All the above alleged acts of Nigerian security forces led the Bowoto community to institute a court action against Chevron in the United States of America where Chevron's parent company is. The community sued Chevron alleging that the corporation was instrumental to the action of the Nigerian government. It alleged that Chevron gave the Nigerian military forces assistance in the form of helicopters and sea trucks, which they used to dislodge its protesters from the barge. Indeed, that Chevron hired the security forces and helped them plan the attack on the villages in retaliation

⁵⁶ See *Bowoto v. Chevron* www.bowoto.com

⁵⁷ *Ibid*

⁵⁸ *Ibid*

for the protesters' activities.⁵⁹ On these facts, the American Court held that Chevron was not liable for the acts of the Nigerian security forces. Though the court did not say so, it must have been a consideration in the mind of the court that Nigerian security forces doing what they did were carrying out the Nigerian government's duty to protect and secure foreign investment.

In August 2008, a fault in the Trans-Niger pipeline resulted in a huge oil spill in Bodo creek in Ogoniland. Failure by Shell and the community to settle the matter out of court led the community to file a suit against Shell in the United Kingdom. The plaintiff statement of claim in the case is reproduced hereunder.

SUMMARY OF CLAIM

1. The Claimant seeks damages arising out of two large oil spills which occurred in 2008 in Bodo, Gokana Local Government Area, Rivers State, Nigeria. It is averred that the spills have caused extensive and long lasting devastation to the Claimant's lands and fishing waters and have a profoundly detrimental impact on the life of the community.
2. This claim is brought in conjunction with claims by individual residents for the discrete pecuniary and non-pecuniary losses that they have sustained as a consequence of the spills. This claim seeks to recover the discreet and distinct losses caused to the Claimant and its inhabitants arising from the damage to community property and rights. Further, the Claimant seeks mandatory relief in the form of an order that the Defendant undertake reasonable and necessary remedial work, alternatively damages in lieu of the same.
3. The Claim proceeds on the basis of a material admission and a material submission by the Defendant namely:
 - 3.1. An admission of liability for both spills as confirmed in the Defendant's response to the letter of claim dated 1 July 2011;
 - 3.2. A submission to the jurisdiction of the High Court of England & Wales by the Nigerian domiciled Defendant as recorded in its Acknowledgement of Service dated 2 August 2011.
4. Notwithstanding the admission of liability, the Claimant sets out herewith the full factual background giving rise to the claim, including particulars of the fault of the Defendant, not least because this is relevant to the assessment of quantum, including aggravated and exemplary damages.

PARTIES

5. The Claimant is a Nigerian fishing and farming community known as the Bodo City community ("the Community").
 - 5.1 The said Community is comprised of the following 35 villages and fishing communities: 1) Teneol, 2) Obara, 3) Sivikpala, 4) Ketoi, 5) Deebon, 6)

⁵⁹ Ibid

Botor, 7) Nweezor, 8) Ka-Nweezor, 9) Kaani, 10) Kpalator, 11) Kegborozor, 12) Sugi, 13) Kozo, 14) Bara-Ben, 15) Giogo-Bari, 16) Tengu, 17) Baravigo, 18) Bara-nweezor, 19) Baamu, 20) Gbogozor, 21) Bon-Zarakpege, 22) Kolgba, 23) Bon-Olzee, 24) Koltui, 25) Bon-Lebara, 26) Kolgboro, 27) Bon-Porobani, 28) Zerima, 29) Seato, 30) Sizorgei, 31) Bon-Berebon, 32) Popkol, 33) Olgio, 34) Baan, 35) Kah.

- 5.2 The Community is the legal owner of communal lands, creeks, rivers, mangroves and swamps in Bodo, Rivers State, Nigeria. The authorized leaders of the Community are the Paramount Ruler and the Council of Chiefs and Elders. The Community has capacity, as a matter of Nigerian law, to pursue claims for damage to its land. Further and alternatively, if, contrary to this averment, the Claimant does not have sufficient capacity then permission to make an amendment will be sought so as to proceed by way of representative action in the name of one or more members of the Community, pursuant to CPR 19.6.
6. The boundary of the Claimant's communal land ownership is set out in a satellite map which is annexed to these Particulars of Claim ("Annex 1"). The accuracy of the said boundary is being verified and the Claimant reserves the right to file and serve an updated map and survey plan in due course. It is estimated that the total area of land owned by the Community is approximately 9,230 hectares.
7. The Defendant is a Nigerian registered exploration and production company incorporated in the Federal Republic of Nigeria. Its registered office is the Shell Industrial Area, Rumubiakani, PO Box 263, Port Harcourt, Rivers State, Nigeria. It is the largest exploration and production company which is operational in Nigeria and is the operator of a Joint Venture agreement between itself, the Nigeria National Petroleum Corporation, Total Exploration and Production (E&P) Nigeria Ltd and Nigeria Agip Oil Company Limited ("the Joint Venture"). Further, it is averred that the Defendant is the licensee for the oil pipeline licence granted in relation to the 24" Trans Niger pipeline which runs through the Bodo creek.

III. FACTUAL BASIS OF THE CLAIM

8. The Bodo Community is located in the Gokana Local Government Area of Rivers State, Nigeria. The Community is situated on the north east edge of creeks and mangrove wetlands known as the Bodo creek which comprises of about 9,230 hectares of land, swampland and waterways ("the creek"). Bodo City and its surrounding villages have a population of about 49,000 people.
9. The majority of the population of Bodo have traditionally depended upon subsistence fishing and farming. It is averred that prior to August 2008 the Bodo creek served as a significant fishing source for the Gokana area of Rivers State and

as a travelling route to neighbouring communities including Bonny, Andoni in Rivers State and to communities in Akwa Ibom State.

10. The Defendant suspended oil exploration and exploitation operations in the Bodo area in 1994. However, the area remains highly vulnerable to oil spills. The aforementioned Bodo creek is located in Ogoniland which is comprised of four local government areas and contains 96 oil wells connected to 5 flow stations which are operated by the Defendant. Two of the flow stations, Bomu and Bodo West, are situated in Gokana Local Government Area.
11. Oil pipelines operated by the Defendant traverse the Claimant's land, creek and waterways. The said pipelines transport oil to the Bonny Crude Oil Export Terminal on Bonny Island ("the Bonny terminal") which is operated by the Defendant. In particular, the 24" and 28" Bomu-Bonny pipeline, a twin Trans-Niger trunkline, crosses the Gokana Local Government Area ("the pipeline"). The said pipeline connects to the Bomu manifold at K-Dere and the Bodo West flow station which is located in the Bodo creek and further links to the Bonny terminal.
12. Prior to 28 August 2008 the Claimant avers that whilst the creek had suffered from a small number of minor oil spills from neighboring communities, any resulting pollution was not significant and the creeks were environmentally sound. In particular, the Claimant relies upon ecological surveys which were conducted from 2005 to 2008 by Dr Onwugbuta, Dr Zabbey and Dr Erondy of the Department of Animal Science and Fisheries, University of Port Harcourt, Dr Wolff of the Department of Marine Benthic Ecology and Evolution, University of Groningen, the Netherlands and Dr Malaquias of the University of Bergen, Norway¹. The baseline data obtained by the said ecological studies demonstrated that the Bodo creek was rich in fauna and essentially free of hydrocarbons prior to the said oil spills. The studies findings included:
 - 12.1 The Bodo creek had not experienced any oil spills since 1986 other than a minor spill in 2003 from a neighbouring community;
 - 12.2 The Dor Nwezor channel had no physical trace of oil and did not show any detectable signs of chronic oil contamination;
 - 12.3 The Kpador channel was considered "*near pristine*";
 - 12.4 The Bodo creek had diverse and abundant macrofauna in sediments and on mangrove trunks and prop roots;
 - 12.5 The Bodo creek served as a strong livelihood support base for the people of Bodo, including capture fisheries and small scale aquaculture.
13. On or about 28 August 2008, a rupture occurred in the 24" Bomu-Bonny SPDC Trans-Niger Pipeline at Sivilbilagbara in the Bodo creek causing an extensive spill of crude oil into the creek ("the first oil spill"). The Claimant avers the said oil spill was the result of equipment failure. Local fishermen and The Contractors reported the oil spill to the Council of Chiefs and Elders and by telephone notified the Defendant during September 2008. No attempt was made by the Defendant to contain the spill, reduce the flow of oil or to cap the spill during this period.

14. On 10 October 2008 the Centre for Environment, Human Rights and Development ("CEHRD") published a report entitled "*Persistent Oil Spillage at Bodo Creek: unprecedented impacts in ecosystem, biodiversity and food security of Ogoni communities*" in which they reported that the spill had started on 28 August 2008 and that:
"Tidal regimes have caused wide-spread distribution of oil scum to the length and breadth of Bodo Creek and the network of adjoining Creeks. Toxicity of the oil has resulted in mortal damages to food species that support the protein needs of the people....These [mangroves] are tainted and have started showing signs of death and defoliation; some mangrove stands are dead already."
15. On 13 October 2008 CEHRD issued a press statement calling upon the Defendant to mobilize its counter spill personnel to the Bodo creek as a matter of urgency. The press release was reported in the Nigerian national media including on radio stations and the national newspapers. However, the Defendant did not visit the site of the spill, reduce the flow of oil in the pipeline, contain the spread of oil or clamp the oil spill until 7 November 2008.
16. It is averred that crude oil spilt into the Bodo creek at an estimated rate of 3,900 barrels per day for a period of over two months. The said pipeline is situated below ground and the crude oil at first saturated the surrounding soil and waterways. As the water level rose, the crude oil was carried to the surface of the creek and was then spread by tidal waters across the Bodo creek and to neighboring communities.
17. The Claimant has obtained i) video footage of the oil spill on 15 October 2008, before it was clamped and ii) video footage of the clamping of the rupture of the said pipeline on 7 November 2008. A Joint Investigation Team led by the Defendant visited the site on 7 November 2008 and determined that the cause of the oil spill was equipment failure.
18. The Claimant's lands, forests, waterways, and creeks were all extensively impacted by the crude oil during this period. The Claimant avers that the vast majority of the Bodo creek was impacted by the first oil spill including the Kpador and Dor Nwezor network of creeks and channels. It is also averred that the creeks belonging to the neighboring communities of Lewe, Bomu, Goi, Mogho, Kpor and Gbe were all impacted by the said oil spill.
19. On or about 7 December 2008, a further oil spill occurred on the Trans-Niger pipeline at Bodo Bia Barima area in the Bodo creek ("the second oil spill"). The Claimant avers that this oil spill was also the result of equipment failure. The said spill was reported to the Defendant on 9 December 2008, however a Joint Investigation Team did not visit the site, reduce the flow of oil in the pipeline, attempt to contain or clamp the oil spill until 19 February 2009.
20. Upon visiting the site of the oil spill on 19 February 2009, the Joint Investigation Team concluded in Joint Investigation Report Incident No 2008-2002 61 that the oil spill had been caused by equipment failure. From 9

December 2009 to 19 February 2009, oil again spilled continuously into the creek. The Claimant estimates that the volume of the second spill was larger than the first spill. The Claimant further avers that the method of calculating the volume of oil spilt and the estimates contained in the two aforementioned Joint Investigation Reports are entirely inaccurate and erroneous.

21. Notwithstanding that the Defendant was provided with notice of the two spills, the Claimant avers that no or no adequate steps were taken to reduce the flow of oil, to clamp and to contain the oil spills between 28 August 2008 and 7 November 2008 and 7 December 2008 and 19 February 2008.

General Nature of the Environmental Damage Caused

22. As a result of the said oil spills, marine life has been devastated within the 9,230 hectares of the creek and the mangroves have been largely destroyed. The Claimant avers that the damage includes:
 - 22.1 A severe reduction of the abundance of marine life throughout the Bodo creek. In particular, shellfish are no longer present in the Bodo creek and fish numbers have dramatically reduced;
 - 22.2 A dramatic reduction in the mangrove population of the Bodo creek. It is estimated that 1,754 hectares of mangroves have been heavily impacted and 3,110 hectares have been moderately impacted. The majority of the mangroves which were heavily impacted have died as a result of their exposure to the oil;
 - 22.3 Contamination of farmland along the coastal areas, in turn affecting farm production and yields due to the toxicity of the soil and groundwater;
 - 22.4 High levels of hydrocarbons in water, sediment and tissue samples which exceed the Nigerian legal standards and international standards for hydrocarbon contamination rates by a significant margin.
23. In reliance on the forgoing averment the Claimant relies not least on the following materials:
 - 23.1 In September 2009 a Post-Impact Ecological Assessment study of the oil spillages was carried out in the Bodo Creek in conjunction with the Centre for Environment, Human Rights and Development by Ecoland Resources Limited. The assessment found:
 - 23.1.1 The ecosystem had suffered from a “*drastic reduction*” in plant species diversity at both peripheral shorelines and inter-tidal zones of the creek.
 - 23.1.2 There was an immense reduction in the frequency, distribution and relative abundance of phytoplankton, periphyton, zooplankton and zoobenthos.
 - 23.1.3 The said oil spills had “*a tremendous mortal and sub-lethal impact on the biota studied*”.
 - 23.1.4 Virtually all the notable fisheries of the Bodo creek were no longer operational at the time the creek was assessed.
 - 23.2 In addition to the scientific data as to the impact of the abovementioned oil spills upon the Bodo creek, the Claimant will rely upon a substantial

body of independent expert evidence which exists as to the environmental impact of the oil spills in the Niger Delta generally. In 2006, independent Nigerian, British and USA environmental experts conducted a preliminary Resource Damage Assessment in the Niger Delta for the Nigerian Federal Ministry of Environment. The independent assessment found that many of the oil facilities and operations are located within sensitive habitats, including areas vital to fish breeding, sea turtle nesting, mangroves and rainforests, which have often been severely damaged. The report states that the damage from oil and gas operations is “*chronic and cumulative and has compromised livelihoods...*”²

- 23.3 The Claimant further relies upon the United Nations Environment Programme’s (“UNEP”) Environmental Assessment of Ogoniland, 2011. As part of the said assessment, UNEP surveyed 122 kms of pipeline rights of way and visited all oil spill sites, oil wells and other oil-related facilities in Ogoniland, including the Bodo creek. UNEP identified 69 sites for detailed soil and groundwater investigations. The Claimant relies upon the findings of the UNEP report, in particular:
 - 23.3.1 Total Petroleum Hydrocarbon (“TPH”) concentrations in sediments were found to exceed Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (“EGASPIN”) values in samples taken in the Ejama, Biara, Ataba, Bodo West, Kpadpr-Bodo, Bodo, Sugi-Bodo, B-Dere, K-Dere and Kolgba communities.
 - 3.3.2 TPH levels for the surface water at Atab-Otokroma 2, Ataba, Kwawa, Kozo, Bodo and Kolgba were particularly high, suggesting that the incidents that occurred in these communities were more severe than those that affected the other communities.
 - 23.3.3 In two thirds of the contaminated land sites close to oil industry facilities the soil contamination exceeded Nigerian national standards.
 - 23.3.4 In 41 sites the hydrocarbon levels in the groundwater were in excess of international standards.
 - 23.3.5 Hydrocarbon contamination was found in water taken from 28 wells at 10 communities adjacent to contaminated sites. 7 wells showed 1,000 times higher concentrations than permitted under Nigerian drinking water standards.

Clean Up and Remediation

24. The Claimant avers that following the eventual inspections and clamping of the oil spills by the Defendant, no clean up or remediation has been undertaken by the Defendant to restore the impacted creeks, waterways and land to their pre-spill state or to the condition as required by Nigerian law.
25. After both oil spills had been capped, the Ministry of the Environment of Rivers State wrote to the Defendant on 15 January 2009 and 11 February 2009 requesting

a meeting to take place between the Claimant and the Defendant with regard to the said oil spills.³ The Defendant failed to respond to the said letters.

26. The National Oil Spill Detection and Response Agency (“NOSDRA”), an agency of the Federal Government of Nigeria, conducted an investigation into the causes of the said oil spills in 2009. The Defendant failed to respond to the efforts of NOSDRA to ensure that a damage assessment was carried out expeditiously. In a letter addressed to the Defendant, dated 9 June 2009, the Director General of NOSDRA stated:

“It is however regrettable that SPDC has not deemed it fit to respond to the various efforts of the Agency in ensuring that the damage assessment exercise is carried out promptly. This impasse has resulted to the impacted sites not being attended to and consequently, the continuous devastation of the environment.

In view of the foregoing, the Agency considers as unacceptable the continuous delay in the conduct of damage assessment. Consequently, I am directed to request you as follows:

- (i) That SPDC should as a matter of urgency draw up a programme for the damage assessment and inform the Zonal office of the Agency accordingly. (ii) That the necessary logistic arrangements for the exercise be made by SPDC for the smooth conduct of the exercise.”⁴

27. The Defendant failed to conduct any clean up or remediation of the said oil spills despite the letters sent by the Ministry of the Environment of Rivers State and NOSDRA.
28. Further, the Claimant avers that the Defendant provided limited relief materials on 2 May 2009 consisting of 50 bags of rice, 50 bags of beans, 50 bags of garri, 50 cartons of sugar, 50 cartons of powder peak milk, 50 cartons of Milo tea, 50 cartons of tomatoes and 50 tins of groundnut oil which were rejected by the Council of Chiefs and Elders as being entirely inadequate for a community of 49,000. In June 2009 the Defendant provided double the amount of relief materials as previously offered which were accepted by the Community given their need. However, the Claimant avers that the relief provided was entirely inadequate for a community of their size.
29. Accordingly, in respect of the said oil spills it is averred that:
- 29.1. The two oil spills resulted from erosion and rupture (“equipment failure”) to oil pipelines operated by the Defendant;
- 29.2. The Defendant was provided with prompt notice of the said oil spills and failed to repair the said ruptures expeditiously, to take any/any adequate measures to reduce the flow of the oil and to take any/any adequate measures to contain the spread of oil;
- 29.3. The rate of flow of oil from the first spill was in the region of 3,900 barrels of oil for at least 72 days totalling approximately 280,000 barrels of oil.

The rate of oil flow from the second spill was at least as large as the first spill and continued for 75 days.

29.4. The Bodo creek was environmentally sound prior to the said oil spills.

The first oil spill extended to most areas within the Bodo creek and to neighbouring communities. The second oil spill added to and compounded the environmental damage which had already been caused by the first oil spill.

29.5. Once the Defendant had capped the ruptures to the said oil pipelines, it failed to carry out any/any adequate clean up and remediation to restore the impacted land, creeks and waterways to their pre-spill condition as required under Nigerian law.

LEGAL LIABILITY

A. Applicable Law

30. As to the law governing the determination of this claim it is averred that:

30.1. The liability of the Defendant falls to be governed by the law of Nigeria pursuant to section 11, alternatively section 12 of the Private International Law (Miscellaneous Provisions) Act 1995.

30.2. Whilst the liability of a company registered in Nigeria would ordinarily fall to be determined by the law of that country, the applicable law relating to procedure, including the measure of damages, is that of England and Wales

Basis of Liability of the Defendant in Nigerian Law

31. The principles and provisions of Nigerian law upon which the Claimant will rely are, in particular:

31.1. The Defendant is strictly liable to compensate the Claimant by virtue of the Oil Pipelines Act 1990 which provides that:

“11(5) The holder of a licence shall pay compensation –

(c) to any person suffering damage (other than on account of his own default or on account of the malicious act of a third person) as a consequence of any breakage of or leakage from the pipeline or an ancillary installation, for any such damage not otherwise made good.

If the amount of such compensation is not agreed between any such person and the holder, it shall be fixed by a court in accordance with Part IV of this Act.”

31.2. Moreover, the Defendant, as an operator of an oil pipeline, is required by law to comply with the Petroleum Drilling and Production Regulations of 1969. Regulation 25 requires companies to:

“..adopt all practicable precautions including the provision of up-to- date equipment approved by the Director of Petroleum Resources to prevent the pollution of inland waters, rivers, watercourses, the territorial waters of Nigeria or the high seas by oil, mud or other fluids or substances which might contaminate the water, banks or shoreline or which might cause harm or destruction to fresh water or marine life, and where any such pollution

occurs or has occurred, shall take prompt steps to control and, if possible, end it."

- 31.3. Further, the operators of oil pipelines are also required by Regulation "to maintain all apparatus and appliances in use in his operations...in good repair and condition, and shall carry out his operations in a proper and workmanlike manner in accordance with these and other relevant regulations and....take all necessary steps practicable –
- a) to control the flow and prevent the escape or avoidable waste of petroleum discovered in or obtained from the relevant area;....
 - b) to prevent the escape of any petroleum into any water, well, spring, stream, river lake, reservoir, estuary or harbour; and
 - c) cause as little damage as possible to the surface of the relevant area and to the trees, crops, buildings, structures, and other property thereon."
- 31.4. Nigerian statutory law further requires operators of oil pipelines to comply with "good oil field practice" and explicitly adopts international standards of best practice. The Mineral Oils (Safety) Regulations 1962 provide by Regulation 7:
- "Where no specific provision is made by these Regulations in respect thereof, all drilling, production, and other operations necessary for the production and subsequent handling of crude oil and natural gas shall conform with good oil field practice which for the purpose of these Regulations shall be construed to be adequately covered by the appropriate current Institute of Petroleum Safety Codes, the American Petroleum Institute Codes or the American Society of Mechanical Engineers Codes."*
- 31.5. The Defendant is further required to comply with the *Environmental Guidelines and Standards for the Petroleum Industry* (2002) ("the Guidelines") with regard to the clean up operation following an oil spill. The Guidelines require the operator of an oil pipeline to promptly clean up an oil spill irrespective of its cause. Section VIII B.4.1 states:
- "An operator shall be responsible for the containment and recovery of any spill discovered within his operational area, whether or not its source is known. The operator shall take prompt and adequate steps to contain, remove and dispose of the spill."*
- 31.6. Pursuant to Section VIII B.2.6.3 of the Guidelines the clean up must commence within 24 hours of the occurrence of the oil spill. The Guidelines further require the operator to keep a daily log of all spills until the cleanup is complete. Within 24 hours of a spill the operator must submit an "oil spill notification report" to the director of the Department of Petroleum Resources of Nigeria. A follow up report should be submitted 14 days after the spill and a cleanup report should be submitted four weeks after the spill.

31.7. Pursuant to Section VIII B.2.11.1 of the Guidelines, it is the responsibility of the operator to restore the environment in so far as it is possible to do so to its original state. Section VIII B.2.11.3 of the Guidelines stipulates that:

- i) *For all waters there shall be no visible sheen after the first 30 days of the occurrence of the spill no matter the extent of the spill;*
- ii) *For swamp areas, there shall not be any sign of oil within the first 60 days of occurrence of the incident;*

31.8. The Guidelines further provide that oil contamination of soil, sediment and surface water may not exceed specified levels that are consistent with internationally recognized standards for maximum levels of oil pollution. Section VIII B.2.11.3 (iii) of the Guidelines stipulates that:

“For land/sediment, the quality levels ultimately aimed for (target value), is 50mg/kg of oil content.”

31.9. Once the cleanup report is submitted, the operator is required to conduct an Environmental Evaluation (Post Impact) Study of the adversely impacted environment pursuant to Section VIII B.7.1 and Article 2 of the *Environmental Impact Assessment Process Guidelines*.

Breaches of Nigerian Statutory Law

32. The Defendant is strictly liable to compensate the Claimant by virtue of s.11(5) of the Oil Pipelines Act 1990. Further, the Claimant relies upon the following admission by the Defendant in open correspondence with the Claimant’s representatives, dated 1 July 2011:

“SPDC states for the record that, as licensee for the oil pipeline licence granted in relation to the 24” Trans Niger pipeline, it accepts responsibility under the Oil Pipelines Act for the two oil spills, both of which were due to equipment failure.

SPDC acknowledges that it is liable to pay compensation in accordance with its obligations under the Oil Pipelines Act to those that are entitled to receive such compensation.”

33. Further, in breach of their duties under Nigerian statutory law, as set out in paragraph 31 above, the Defendant:

- 33.1. Failed to take any or any adequate precautions to prevent pollution and/or to take prompt steps to control the pollution contrary to regulation 25 of the Petroleum Drilling and Production Regulations of 1969;
- 33.2. Failed to maintain the relevant installations in good repair contrary to regulation 37 of the Petroleum Drilling and Production Regulations of 1969;
- 33.3. Failed to ensure that its pipeline integrity management and leak detection systems conformed with good oil field practice as set out in the *American Petroleum Institute Codes or the American Society of Mechanical Engineers Codes* contrary to Regulation 7 of the Mineral Oils (Safety) Regulations 1962;

- 33.4. Failed to take prompt and adequate steps to contain, remove and dispose of the oil spills contrary to Section VII B.4.1 of the *Environmental Guidelines and Standards for the Petroleum Industry* (2002);
- 33.5. Failed to take any or any adequate steps to clean up the oil spills within 24 hours of their occurrence or at all and/or to submit an “*oil spill notification report*” to the director of the Department of Petroleum Resources of Nigeria contrary to Section VII B.2.6.3 of the Guidelines;
- 33.6. Failed to restore the area damaged by the oil spills to a condition in accordance with Section VII B 2.11 of the Guidelines;
- 33.7. Failed to conduct an Environmental Evaluation (Post Impact) Study of the adversely impacted environment contrary to section VII 7.1 of the Guidelines.

The rule in Rylands v. Fletcher

- 34. Further or alternatively, the Defendant is also liable under the Nigerian law of tort.
- 35. The Claimant avers that the Defendant is strictly liable for the damage caused under the rule in *Rylands v. Fletcher* (1868) LR 3 HL 330 because the transportation of substantial quantities of crude oil in the said pipelines was:
 - 35.1. Hazardous in that such products were likely to cause harm to property in the surrounding area in the event of any escape of oil from the pipelines;
 - 35.2. A non-natural use of the land.

Negligence and Nuisance

- 36. Further, the Defendant is liable in negligence and in nuisance (both private and public nuisance) for the reasons set out herein. The Defendant owed the Claimant a duty of care to properly and carefully maintain the Trans-Niger Pipeline and/or to take reasonable steps to avoid foreseeable damage to their lands and waterways. In particular, the Defendant is under a duty of care to take adequate steps to prevent, contain and clean up any oil spills from oil pipelines over which they have operational control and to clean up and remediate any impacted land and waterways.
- 37. The Defendant’s liability arises not least in the context of its knowledge as to the risk and effect of oil spills in the Niger Delta region. In construing the Defendant’s knowledge as to the serious risk of oil spills and the environmental damage which ensues the Claimant relies not least upon the following facts and matters:

Particulars of Knowledge

- 37.1. The scale and prevalence of oil spills in the Niger Delta. Between 1998 and 2007 the Defendant reported that a total of 284,000 barrels of oil were spilled in the Niger Delta. In 2006 a team of international experts estimated that between 9 million and 13 million barrels of oil (1.5 millions tons) had split into the Niger Delta over the past 50 years. Overall, it is estimated that the

inhabitants of the Niger Delta have experienced oil spills on a par with the 1989 Exxon Valdez disaster every year for the past 50 years.

- 37.2. Reports from local and international organizations and experts have regularly raised serious concerns as to the effect of oil spills on the environment and inhabitants of the Niger Delta and the fact that oil companies are not adhering to international standards in the Niger Delta. 5 Niger Delta Natural Resource Damage Assessment and Restoration Project, Federal Ministry of Environment, Abuja. 31 May 2006. In 1994, *the Etiebet Report*, Inter-Ministerial Fact-Finding team of the Nigerian Government, in 1994 found that: “*The degradation of the environment has destroyed farmlands and aquatic life and affected the economic life of all....There was a high incidence of pollution caused by oil spillages, leakages, and other discharges into the environment. And the oil companies have not taken action in line with international environmental standards to control and ameliorate the environmental impacts in their operations*”.⁶
- 37.3. In 1995, the Defendant conceded that its own operations were causing pollution in the Niger Delta: “*The Company recognizes the gap between its intentions and its current performance. It is working hard to renew ageing facilities, reduce the number of oil spills in the course of operations, the amount of gas that is flared, and to reduce waste products.*”⁷
- 37.4. The Conflict Expert Group Baseline Report, *Peace and Security in the Niger Delta*, December 2003 was a leaked report commissioned by the Defendant. The section on ‘Compensation for oil spills’ includes claims that Shell Companies in Nigeria prematurely determine the causes of an oil spill, responds poorly to oil spills and investigations into spills are often compromised by corruption. The report states: “*Regardless of the real causes of oil spills, affected communities are also angered by the destruction of their livelihoods. They have to seek other fishing ground (that are sometimes claimed by other communities) and their income drops. Such resentment can have long- term implications given that communities face the consequences of oil spills on a daily basis.*”
- 6 Don Etiebet Report, Report of the Ministerial Fact-Finding Team to Oil Producing Communities in Nigeria, 1994. 7 SPDC, Nigeria Brief, *The Environment*, 1995.
- 37.5. The *Niger Delta Natural Resource Damage Assessment and Restoration Project* was published in May 2006 by the Federal Ministry of Environment of Nigeria. The report concluded that oil companies operating in the Delta had not employed the best available technology and practices that they use elsewhere in the world which they labelled “*a double standard*”. It recommended that old leaking pipelines and installations must be replaced immediately and dumping of waste must stop.

- 37.6. In 2007, an admission was made publicly by the Country Chair for the Defendant, some 12 years after a similar concession from the Defendant: *“We do, however, have a substantial backlog of asset integrity work to reduce spills and flaring. This backlog is caused by under-funding by partners over many years, operational problems and, more recently, the lack of safe access to the facilities.”*⁸
38. The aforesaid oil spills and the resulting damage to the Claimant’s property was caused by the Defendant’s negligence and/or constituted a nuisance caused or permitted by the Defendant in that it:

Particulars of Fault

- 38.1. Failed to take adequate steps to maintain oil pipeline and equipment;
- 38.2. Caused and/or permitted the operation of faulty equipment to transport oil;
- 38.3. Failed to take adequate steps to promptly reduce the flow of oil from the pipeline after each rupture;
- 38.4. Failed to take adequate steps to promptly cap and stop the flow of oil;
- 38.5. Failed to take adequate steps to limit and contain the extent of the oil spills;
- 38.6. Failed to take any/any adequate steps to clean up and remediate/adequately clean up and remediate the contaminated waterways and land;
- 38.7. Failed to provide adequate supervision to its employees and agents.
39. Further, in so far as the Defendant seeks to aver that any of the damage to the Claimant’s property and rights is attributable to the acts of third parties (specifically spillages caused by criminal attempts to siphon off oil from the pipeline known as “bunkering” and thereafter seek to refine the oil in the vicinity) then the Claimant will aver as follows:
- 39.1. The environmental impact of any spills from bunkering has been marginal in comparison to the damage caused by the two material spills which are subject to this claim;
- 39.2. The existence of the practice of bunkering represents an actionable failure herein of the Defendant to take any or any adequate steps to prevent the practice or reduce the incidence of the practice;
- 39.3. The practice of bunkering has only emerged subsequent to the two oil spills and the devastation of the local economy and is consequent on the socio-economic impact of the two material spills which are subject to this claim.
- 39.4. The Defendant has failed to take any, or any adequate steps to clean up such spill as have been caused by bunkering and consequential refining.

Loss and Damage

40. By reason of the matters aforesaid the Claimant has suffered loss and damage.
41. It is estimated that approximately 8,106 hectares of mangrove swampland and waterways belonging to the Community have been impacted by the said oil spills. The Claimant avers that the damage includes:

- 41.1. *Mangroves*. The wood from mangroves supports the domestic energy needs of the individual members of the Community. Further, mangroves are productive ecosystems and support large populations of shellfish and fish. It is estimated that approximately 2,923 hectares of mangrove swampland belonging to the Community have been heavily impacted and a further 5,183 hectares have been moderately impacted by the said oil spills. It is averred that damage to mangroves has hampered the long term viability of the Community's economic activities.
- 41.2. *Fishing*. A dramatic reduction of species abundance and diversity in the macrobenthos at Bodo. Pre-spill samples reported a total of over 6,000 individual organisms of 49 species whereas post-spill samples report a total of only 167 individual organisms from just 4 species. In total numbers, the macrobenthic fauna was reduced by 97% as a result of the said oil spills. As a result, the Claimant avers that fishing and shellfish harvesting is no longer viable in the Bodo creek. To the extent that any fish or shellfish have survived they are polluted by crude oil and toxic to human consumption.
- 41.3. *Aquaculture*. Further, the Community engaged in aquaculture, consisting of fish farming in small ponds for sustenance and sale. Without exception, the fish ponds within the Community are no longer functioning and remain polluted.
- 41.4. *Farm land*. It is further contended that farm land in the Community has either been directly impacted by the said oil spills or the crops which are being farmed suffer from lower yields due to i) the toxicity of the soil and ii) the toxicity of the rainfall in Bodo as a result of the said oil spills.
- 41.5. *Drinking Water*. The said oil spills have caused pollution to the drinking water and groundwater used by the community causing members of the Community to find alternative sources of water. The 2011 UNEP Assessment conducted a site specific sample test at SIVIBIRAGBARA-BODO, the site of the first spill. It found that one of its groundwater samples had a total petroleum hydrocarbon of 277,000 µg/l, which was significantly in excess of the EGASPIN intervention value 600 µg/l and target value 50 µg/l.
- 41.6. *Shrines*. Fourteen shrines and objects of traditional religious veneration have been destroyed by the said oil spills. Further, members of the Community have suffered from inconvenience, discomfort, distress, shock and fear.
42. The Claimant reserves the right to provide further particulars of loss and damage upon completion of their expert analysis.

Remedies Sought

43. The Claimant seeks general/basic damages and/or compensation for the damage to the land and rights and the consequential losses therefrom as set out above. A schedule of loss will be provided in due course.

44. Further the Claimant seeks aggravated and exemplary damages which are recoverable in respect of the claims for the causes of action set out above under Nigerian law. Alternatively, if the Court were to conclude that the availability of aggravated/exemplary damages is to be determined in accordance with English law the Claimant avers that aggravated damages are recoverable for the tort of nuisance and in respect of exemplary damages the same are payable by any party where it can be shown that their conduct was calculated to make a profit, in particular where a decision is taken not to replace or expeditiously repair or shut down a leaking oil pipeline because the same would be more expensive than any likely compensation payable as a result of their failure. The Claimant relies specifically on the following:
- 44.1 The failure of the Defendant to either reduce the oil flow/shut down or expeditiously cap and contain the spill from the pipeline for over two months on each occasion despite being aware of the existence of the oil spillage. The inference to be drawn is that the Defendant's failures were motivated by profit;
 - 44.2 The failure of the Defendant to maintain the pipeline in good repair since oil exploration was suspended in Ogoniland in 1994 contrary to Nigerian statutory law;
 - 44.3 The Defendant's failure to clean up and remediate the impacted land over three years after the said oil spills;
 - 44.4 The Defendant's history of disregard for safety and the rights of local inhabitants of the Niger Delta which is a matter of public record. In particular the Claimant relies upon the following facts:
 - 44.4.1 According to the United Nations Development Programme more than 6,800 oil spills were recorded in the Niger Delta between 1976 and 2001, approximately 3 million barrels of oil;
 - 44.4.2 According to the National Oil Spill Detection and Response Agency in March 2008 there were at least 2,000 sites in the Niger Delta that required remediation because of oil related pollution. The majority of those locations were SPDC sites;
 - 44.4.3 By SPDC's own admission the majority of the spills between 1989 and 1994 were caused by corrosion and operational problems;
 - 44.4.4 In 1996, Bopp van Dessel, the Defendant's former Head of Environmental Studies in Nigeria, stated in a television programme, *World in Action*, that the Defendant had ignored repeated warnings that its oil production operations in Nigeria were causing widespread environmental damage. He stated "*They were not meeting their own standards; they were not meeting international standards. Any Shell site that I saw was polluted. Any terminal that I saw was polluted. It was clear to me that Shell was devastating the area.*"
 - 44.4.5 The UNEP Assessment 2011 was highly critical of the Defendant's clean up and remediation procedures and compliance with Nigerian statutory law and international best practice as set out above.

45. In order to put the Community into its position prior to the spill extensive clean up and remediation is required in general terms this would require:
 - 45.1. An intensive cleanup of oil spilled into the Bodo creek, including the collection of free-floating, cleaning of oiled intertidal sediments, and cleaning of mangroves;
 - 45.2. An environmental remediation programme, including mangrove restoration and replanting in impacted areas;
 - 45.3. Fisheries rehabilitation, including restocking native fish populations through aquaculture production;
 - 45.4. Re-establishment and management of protected areas, including the designation of new mangrove protected areas.
 46. It is averred in light of Defendant's history of poor clean up and remediation practice that the Court should award damages in lieu of the Defendant itself undertaking clean up and remediation. The Claimant relies not least upon the finding of the United Nations Environment Programme Assessment 2011 summarised at paragraph 23.3 and the following additional findings:
 - 46.1. The study concludes that the control, maintenance and decommissioning of oilfield infrastructure and in Ogoniland are inadequate. Industry best practices and SPDC's own procedures have not be applied, creating public safety issues;
 - 46.2. Remediation by enhanced natural attenuation ("RENA"), the only remediation method observed in Ogoniland has not proven to be effective. The assumptions behind RENA are not sustainable and UNEP found contamination has reached groundwater in many locations;
 - 46.3. 10 out of 15 investigated sites which SPDC records show as having completed remediation still have pollution exceeding the SPDC and Nigerian Government target values. In 8 of these sites pollution had migrated to the groundwater;
 - 46.4. In January 2010 a new Remediation Management System was adopted by Shell Exploration and Production Companies in Nigeria. The studies found that while the new system still does not meet local regulatory requirements or international best practice.
 47. Alternatively the Claimant seeks a mandatory order that the Defendant carry out an appropriate clean up and remediation of the impacted land and waterways.
- Reservation
48. The Claimant reserves the right to amend these particulars upon completion of disclosure herein, including but not limited to the issues of aggravated and exemplary damages as set out above.
 49. Further the Claimant seeks interest pursuant to section 35A of the Senior Courts

Topical Issues in the Oil and Gas Industry

Global warming

It is no longer in doubt that the earth is heating up. Melting glaciers, rising sea levels, more violent winds and tropical storms, increased incidents of torrential rain and flash floods in various parts of the world are evidence of the earth heating up. Scientist have since traced the warming of the earth to increased levels of greenhouse gases like carbon dioxide and methane in the earth atmosphere system. These gases are called greenhouse gases because they behave like a greenhouse. They allow heat to come into them but do not allow it to go out. Carbon dioxide and methane while still in fossil fuels cannot absorb heat to heat up the earth. However, once released by burning fossil fuels, they are released into the atmosphere where they trap heat.

With more burning of fossil fuels by automobiles and industrial processes, more carbon dioxide and methane being released into the atmosphere and consequently more heat is trapped by the released carbon dioxide and methane heating up the earth. It is this process that has led to global warming.

Global warming resulting from the release of carbon dioxide and methane by the burning of fossil fuels makes oil and gas corporations one of the culprits responsible for global warming. As culprits, oil and gas corporations in the near future will have to take out insurance policies insuring communities and businesses from the risks of hurricanes, rising sea levels, thunder storms, floods, killer heat waves and other natural disasters driven by global warming. Perhaps the best insurance the oil and gas industry can take for itself against insuring communities, individuals and businesses against the destructive forces of global warming is to take effective measures to curb the release of greenhouse gases that cause global warming. The Clean Development Mechanism evolved under the Kyoto Protocol, cap and trade, carbon capture and storage are devices it can take advantage of to secure itself from ruinous insurance demands from communities, individuals and businesses.

Clean Development Mechanism

The Clean Development Mechanism (CDM) is one of the flexible mechanisms under the Kyoto Protocol. It provides for emissions reduction projects which generate Certified Emission Reduction units which may be traded in emissions trading schemes. The CDM is defined in Article 12 of the Kyoto Protocol. It is intended to

meet two objectives: (i) to assist parties not included in Annex I to achieve sustainable development and contribute to the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC), which is to prevent dangerous climate change; and (ii) to assist parties included in Annex I to achieve compliance with their quantified emission limitation and reduction commitments. "Annex I" parties are those countries that are listed in Annex I of the treaty. They are industrialized countries. Non-Annex I parties are developing countries without technological capacity to reduce emission of greenhouse gases to the limits fixed by the Kyoto Protocol.

The CDM addresses the second objective by allowing Annex I countries to meet part of their emission reduction commitments under the Kyoto Protocol by buying Certified Emission Reduction units from CDM emission reduction projects in developing countries. The projects and the issue of CERs is to ensure that these emission reductions are real. The CDM is supervised by a CDM Executive Board and is under the guidance of the Conference of the Parties of the United Nations Framework Convention on Climate Change.

The CDM allows industrialized countries to buy CERS and to invest in emission reductions where it is cheapest globally. Between 2001, which was the first year CDM projects could be registered, and 7 September 2012, the CDM issued 1 billion Certified Emission Reduction units.¹ As at 1 June 2013, 57% of all CERS had been issued for projects that will help reduce carbon dioxide, methane, nitrous oxide and other greenhouse gases in the atmosphere.² Carbon capture and storage (CCS) was included in the CDM carbon offsetting scheme in December 2011.³

Greenfield refineries and renewable energy pursued by NNPC is part of Clean Development Mechanism that will cut down the release of carbon dioxide and other greenhouse gases that heat up the earth exposing the oil and gas industry to insurance claims that can prove ruinous.

Cap and Trade

For anything to be produced or to move under modern production and mobility processes, energy mostly supplied by fossil fuel is needed. This means fossil fuel has to be burned and once burned, it releases greenhouse gases which will trap heat from the sun. To reduce the emission of greenhouse gases that modern production and mobility processes entail, emission control technology exist which industry put to use to reduce their emission of greenhouse gases and other pollutants. To ensure industries acquire these emission control technologies, the law uses a permit system

¹ www.cdmrulebook.org/304, visited 4/4/2014

² Press Release 7th Sept. 2012

³ Clifford Chance LLP (2013). "Clean Development Mechanism: CDM and the UNFCCC" <http://a4id.org/sites/default/files/user/CDM%26UNFCCCcorrected.pdf> . Advocates for International Development. Retrieved 19 September 2013.

that allows them emission of a particular volume of pollutants per month or year. Any emission in excess of the permitted limits is an offence punishable under the law.

While companies with requisite emission control technology can keep their emission within or even below the permitted emission, levels, companies without such technology may not be able to keep their pollution level within the permitted level. Under the cap and trade system, companies able to keep their emission below the permitted emission level may trade or sell off the emission they are entitled to, to companies that cannot keep their emissions within the permitted limit. An application of cap trade in the oil and gas industry will reduce the emission of greenhouse gases through gas flaring, for instance, considerably.

Carbon capture and Storage

Carbon dioxide captures heat from the sun and stores. Carbon dioxide itself can be captured and stored in an underground storage facility to prevent it from roaming the earth trapping heat. After capture and storage, carbon may later be incinerated underground or released. If well developed to its full sophistication, this technology will provide an instrument of regulating the earth climate. If the world is getting too hot from carbon dioxide greenhouse effect, some carbon dioxide will be sequestered from the earth atmosphere system and buried underground. If the earth is getting too cold, some of the stored carbon dioxide would be released to heat it up.

Sequestering carbon dioxide from the atmosphere and burying it underground is like taking it back to where it was before it was released. Most carbon dioxide in the atmosphere was released either from sedimentary rocks which were mined for their fossil fuels or in trees. When either of these is burned the carbon dioxide in it is released into the atmosphere.

Carbon capture is usually from point sources of the release of carbon dioxide such as fossil fuel power plants. The aim is to prevent the release of large quantities of carbon dioxide into the atmosphere from fossil used in power generation. Although CO₂ has been injected into geological formations for several decades for various purposes, including enhanced oil recovery, the long term storage of CO₂ is a relatively new concept. The first commercial example was that of Weyburn in 2000.⁴ Carbon capture and storage can also be from scrubbing of carbon dioxide from ambient air by geo-engineering techniques.

New Trends in Oil and Gas Exploration

The oil and gas industry is continuously evolving new ways of exploration and production of oil and gas. New trends in oil and gas exploration include the re-exploration of earlier explored acreages mostly onshore and in shallow waters. The re-exploration of these acreages is on the basis of new exploration ideas and technology.

⁴ Burying the problem., Canadian Geographic Magazine

On the basis of new exploration ideas and technology, oil and gas might be found through re-exploration where they were not found in the earlier exploration.

Glossary

Appraisal Drilling: Appraisal drilling is drilling carried out once oil or gas has been discovered in order to assess the extent of the field, the reserves, the possible rate of production and the properties of the oil or gas.

Appraisal Well: An appraisal well is a well drilled to measure the size/quality commercial quantity of hydrocarbon discovery. Before development, an oil discovery is likely to need several appraisal wells. An appraisal area determines the physical extent of reserves and the likely production rate of a field.

Capillary Action: Capillary action or capillarity action is the ability of a liquid to flow in narrow spaces without the assistance of and in opposition to external forces like gravity.

Contract Close Out: Contract Close Out is completion and settlement of the contract including resolution of all outstanding issues. In an oil or gas exploration and production contract, a Contract Close Out will involve settlement of all claims and issues that arose in the course of the exploration and production of the oil and gas. For instance, outstanding invoices of the operator and its disputed claims would all be sorted out in a contract close out.

Christmas Tree: In oil and natural gas extraction, a Christmas tree is an assembly of valves, spools and fittings used for an oil well, gas well, water injection well, water disposal well, gas injection well, condensate well and other types of wells. Christmas tree are used for both surface and subsea wells. The function of a Christmas tree is to control the flow of oil or gas out of the well. It may also be used to control the injection of gas or water into a non producing well in order to enhance oil production rates in other wells. A Christmas tree also serves other functions such as being a chemical injection point, well intervention means, pressure relief means, monitoring point of pressure, temperature, corrosion, erosion, flow rate, flow composition, valve and choke position feedback.

When the valves of a Christmas tree are opened, formation fluids go through a flow-line that leads to a processing facility, storage depot or other pipeline eventually leading to a refinery or distribution centre in the case of gas. Flow lines on subsea wells, usually lead to a fixed or floating production platform or to a storage ship or barge known as a Floating Storage Offloading Vessel (FSO) or a Floating Processing Unit (FPU) or a Floating Production, Storage and Offloading Vessel (FPSO).

Condensate: Condensate is very light petroleum that does not contain heavy hydrocarbon. It is also gas cooled by natural process into a liquid. Condensate is natural gas cooled into a liquid as it migrates upward from the extreme heat of the earth crust towards the surface of the earth.

On the basis of new exploration ideas and technology, oil and gas might be found through re-exploration where they were not found in the earlier exploration.

Glossary

Appraisal Drilling: Appraisal drilling is drilling carried out once oil or gas has been discovered in order to assess the extent of the field, the reserves, the possible rate of production and the properties of the oil or gas.

Appraisal Well: An appraisal well is a well drilled to measure the size/quality commercial quantity of hydrocarbon discovery. Before development, an oil discovery is likely to need several appraisal wells. An appraisal area determines the physical extent of reserves and the likely production rate of a field.

Capillary Action: Capillary action or capillarity action is the ability of a liquid to flow in narrow spaces without the assistance of and in opposition to external forces like gravity.

Contract Close Out: Contract Close Out is completion and settlement of the contract including resolution of all outstanding issues. In an oil or gas exploration and production contract, a Contract Close Out will involve settlement of all claims and issues that arose in the course of the exploration and production of the oil and gas. For instance, outstanding invoices of the operator and its disputed claims would all be sorted out in a contract close out.

Christmas Tree: In oil and natural gas extraction, a Christmas tree is an assembly of valves, spools and fittings used for an oil well, gas well, water injection well, water disposal well, gas injection well, condensate well and other types of wells. Christmas tree are used for both surface and subsea wells. The function of a Christmas tree is to control the flow of oil or gas out of the well. It may also be used to control the injection of gas or water into a non producing well in order to enhance oil production rates in other wells. A Christmas tree also serves other functions such as being a chemical injection point, well intervention means, pressure relief means, monitoring point of pressure, temperature, corrosion, erosion, flow rate, flow composition, valve and choke position feedback.

When the valves of a Christmas tree are opened, formation fluids go through a flow-line that leads to a processing facility, storage depot or other pipeline eventually leading to a refinery or distribution centre in the case of gas. Flow lines on subsea wells, usually lead to a fixed or floating production platform or to a storage ship or barge known as a Floating Storage Offloading Vessel (FSO) or a Floating Processing Unit (FPU) or a Floating Production, Storage and Offloading Vessel (FPSO).

Condensate: Condensate is very light petroleum that does not contain heavy hydrocarbon. It is also gas cooled by natural process into a liquid. Condensate is natural gas cooled into a liquid as it migrates upward from the extreme heat of the earth crust towards the surface of the earth.

Drilling Bits: are cutting tools used to create cylindrical holes almost of circular cross section. Bits are held in a tool called a drill which rotates them and provides torque and axial force to create the hole.

Decommissioning and Abandonment of oil and gas facilities: Decommissioning is to remove something from active use. For instance, a decommissioned high way is a highway that has been removed from service or shut down. Decommissioning can include complete or partial demolition or abandonment of a highway. A thing is usually decommissioned because it has lost its utility. There is also nuclear decommissioning. In the U.K the Department of Energy and Climate Change (DECC) regulates the decommissioning of offshore oil and gas installations and pipelines. Site abandonment involves plugging the well and restoring the site to what it was before the well was drilled. Usually a well is abandoned when either a recently drilled well lacks the potential to produce economic quantities of oil and gas or when a production well is no longer economically viable.

Drilling Mud: Drilling Mud is a mixture of clay and water used in oil and gas drilling operations to carry rock cuttings to the surface and to lubricate and cool the drilling bit. Special chemicals are added to the mud to compensate for the varying composition of water and increase the weight of the column.

Drill Rod: is a piece of equipment used to make drill bits, taps, dowel pins and roller bearings.

Drill Stem: Drill Stem is the part and the end of the drill rod.

Drill Stem Test: Drill Stem Test is a procedure for isolating and testing the pressure permeability and productivity of a geological formation during the drilling of an oil well. The test is an important measurement of pressure behaviour on the formation of fluid and establishing whether a well has found commercial oil quantities

Drill String: Drill String is the entire length of all the drill rod or auger sections.

Dry/Lean Gas: Dry or lean gas is the gas that contains no hydrocarbons.

Elephant Reserves: Elephant Reserves are huge reserves such as Bonga, Agbami, Erah oil fields (Nigeria) and girasol oil field (Angola)

Engineering, Procurement and Construction (EPC): Engineering determines all facility, equipment and material requirements, produces all technical deliverables required to execute the project, reviews Vendor proposals, ensures safety in design; procurement source material and equipment from proven manufacturers, manages logistics of delivering materials and equipments to site, expedites delivery to ensure project is completed on schedule; Construction provides range of services from overall construction management to actual construction and commissioning services, ensures facility is completed on time, on budget and to specification.

Enhanced Oil Recovery (EOR) techniques: Enhanced Oil Recovery (EOR) techniques are practical engineering solutions to recovery of oil. Re-injection of gas to increase pressure and production is a common enhanced oil recovery technique.

Environment Defence Fund: Environment Defence Fund is a Fund also known as Environmental Defence, is a United States-based non-profit environmental advocacy group. The group is known for its work on global warming, oil environmental pollution, ecosystem restoration, oceans and human health.

Flow station: A flow station is where oil flows into from an oil well. Oil flows to the flow station for treatment and control. A flow station usually handles crude oil from more than one oil well. There are about 257 flow stations in the Niger Delta. Most gas flaring is in the flow stations.

Flow Station Deferment: Flow Station Deferment is production deferment.

Formation Fluids are the naturally occurring liquids and gases contained in geologic formation. Fluids introduced during drilling process are called drilling fluids. Fluids in an oil or gas reservoir are called reservoir fluids; fluids produced during production of oil are called production fluids.

FLNG: Floating Liquefied Natural Gas is an offshore vessel used to extract and liquefy natural gas offshore.

FPSO: A Floating Production, Storage and Offloading (FPSO) unit is a floating vessel used by the offshore oil and gas industry for the processing of hydrocarbons and for storage of oil. An FPSO vessel is designed to receive hydrocarbons produced from nearby platforms or subsea template, process them, and store oil until it can be offloaded onto a tanker or, less frequently, transported through a pipeline. FPSOs are preferred in frontier offshore regions as they are easy to install, and do not require a local pipeline infrastructure to export oil. FPSOs can be a conversion of an oil tanker or can be a vessel built specially for the application.

FSO: A Floating Storage Offloading vessel is a vessel used to store oil without processing it.

Front End Engineering Design (FEED): Front End Engineering Design is basic engineering which comes after the conceptual design or feasibility study for an oil well. FEED focuses on the technical requirements as well as rough investment cost for the project. FEED can be divided into several packages covering different portions of the project. FEED packages are used as the bases for bidding for execution of the project. A good FEED will reflect all the client's specific requirements and avoid significant changes during execution phase. For large size projects, FEED contracts usually take around one year to complete. During the FEED phase, there is close communication between the project owners, project operators and the engineering The Contractor to work out the project specific requirements.

Gas Metric Station: A Gas Metric Station is a station the quantity of gas supplied to a gas consumer by pipe is measured.

Geochemistry: Geochemistry is the science that uses the tools and principles of chemistry to explain the mechanisms behind major geological systems such as the Earth's crust and its oceans. The realm of geochemistry extends beyond the Earth, encompassing the entire Solar System and has made important contributions to the understanding of a number of processes including mantle convection, the formation of planets and the origins of granite and basalt. Geochemistry is one of the tools used to locate oil.

Geophysics: Geophysics is the physics of the earth and its environment in space. It is also the study of the earth using quantitative physical methods. The term *geophysics* sometimes refers only to the geological applications on: Earth's shape; its gravitational and magnetic fields; its internal structure and composition; its dynamics and their surface expression in plate tectonics, the generation of magmas, volcanism and rock formation. However, modern geophysics organizations use a broader definition that includes the hydrological cycle including snow and ice; fluid dynamics of the oceans and the atmosphere; electricity and magnetism in the ionosphere and magnetosphere and solar-terrestrial relations; and analogous problems associated with the Moon and other planets. Geophysics is one of the tools used to locate oil.

Geological studies: Geological studies is the studies of rocks

Geophysical studies: Geophysical studies are the studies of the physical properties of rocks.

Hook up: Hook up refers to making the connection between an oil well and the gas separator and between the gas separator and the storage tank or flow line.

Jacket: a Jacket in oil and gas exploration and production lexicon refers to the steel frame supporting the deck and the topsides in a fixed offshore platform.

Lifting the Well: Lifting the well is a form of well stimulation that does not necessarily alter the permeability outside the well bore. Lifting the well as a stimulation technique is resorted to in cases where oil has already entered the reservoir but is prevented from flowing by heavy liquids that have accumulated at the bottom of the well either through water entry or chemicals injected from the surface. These heavy liquids sitting at the bottom of the well hold back the oil in the reservoir essentially killing the well. In such a situation, the heavy liquids are lifted out of the well to allow the oil to flow. They are usually removed by circulating nitrogen in the reservoir using coiled tubing.

Log: Record of a routine journey by a ship or air craft detailing all events on the book in which it is kept. A log is any detailed record of events. It is a device for measuring ship speed.

Manifold: Manifold are things of different kinds having many forms and many parts and applications. They have chambers with many parts, pipes and several openings for

receiving or distributing a fluid or gas; for instance, the intake or exhaust manifold of an internal combustion engine.

Mud Logging: The term used for drilling a borehole into a piece of ground then taking sample for analysis. Mud logging requires expensive and specialized equipments. There are companies that specialize in providing equipment for mud logging. Drilling for the purpose of analysis is mud logging. Mining follows this drilling. Mud logging is some form of precision guided activity that reduces collateral damage, it is some form of reduced impact logging, some form of diagnosis before medication. After mud logging determines the existence of geothermal water, the water can be tapped and brought to the surface where it is used to provide radiational heating. After the heating the water is used for, the water can be returned to its original location to be reheated and reused.

Natural Gas Liquids (NGL): Natural Gas Liquids are liquids derived from the processing of natural gas

Natural Gas Gathering Processing System: Natural Gas Gathering Processing System is a system of collecting gas using sophisticated modern technology. Companies in this system gather and process natural gas from oil or coal bed deposition in the case of associated gas or simply pumping the gas from its reservoir in the case of non associated gas. Once pumped from the ground, it must be processed to remove, ethane, butane, propane, pentane, sulphur and helium. From that point it can be used in its gaseous form or cooled to produce liquefied petroleum gas or liquefied natural gas.

Naphtha: **Naphtha** normally refers to a number of flammable liquid mixtures of hydrocarbons, i.e. a component of natural gas condensate or a distillation product from petroleum, coal tar, or peat boiling in a certain range and containing certain hydrocarbons. It is a broad term covering among the lightest and most volatile fractions of the liquid hydrocarbons in petroleum. Naphtha is a colourless to reddish-brown volatile aromatic liquid, very similar to gasoline.

Off-take: Off-take is the point in a gas distribution system where gas is taken by supply pipe to a major consumer.

Oil Contract Life-Cycle: Oil Contract Life-Cycle is a chain that starts from feasibility studies, negotiation, conclusion of the contract, execution and finally contract close out.

Oil Production: Oil Production is the process of extracting the hydrocarbon and separating the mixture of liquid hydrocarbons, gas, water and solids, removing the constituents and selling the liquid hydrocarbon and gas. Production sites often handle crude oil from more than one oil well.

Oil Rig: An oil rig is the colloquial name for an oil platform offshore. It is a large structure with capacity to drill wells, extract and process oil and natural gas and to

temporarily store products until they can be brought to shore for refining and marketing. In many cases the platform contains facilities to house the workforce as well. Depending on circumstances, the platform may be fixed to the ocean floor, may consist of an artificial Island or may float. Remote subsea wells may also be connected to a platform by flow lines and by umbilical connections. These subsea solutions may consists of one or more subsea wells or one or more manifold centres for multiple wells

Oil Terminal: Oil Terminal is an oil depot.

Pilot Hole: A pilot hole is a small hole drilled into a material to guide a larger drill to the appropriate location. A pilot hole is the pilot for large holes. It may be drilled to the full extent of the large hole or only a portion of the final depth. The pilot hole reduces the power needed to turn a large drill bit and reduces the risk of breaking a large drill bit. Pilot holes are common in oil operations.

Plug-back: Plug-back is placing cement or a mechanical plug in the bottom of an oil well for the purpose of excluding bottom water. Plug-back is often used for abandoned oil wells.

Possible Reserves: Possible Reserves are additional reserves that are less likely to be recoverable than probable reserves.

Potential Reserves: Potential reserves are reserves based on inference from proven, probable and possible reserves.

Probable Reserves: Probable Reserves are the additional reserves that are less likely to be recoverable than proven reserves.

Project Management Team (PMT): Project Management Team refers to those who are directly involved in managing the project execution. The project management team of an oil well drilling project are those directly involved in the drilling of the well or monitoring the activity.

Proven Reserves: Proven Reserves are the estimated amount of oil that has been measured with reasonable certainty and is obtainable with existing equipment and under current operating conditions.

Raw Material Gas: Raw Material Gas is natural gas containing impurities and unwanted substances.

Reserve-to-Production Ratio: Reserve-to-production ratio is the length of time that reserves would last if production continues at its current rate.

Residual Oil: Residual Oil is oil found in exhausted oil wells. It is usually found mixed with water. It cannot be recovered by conventional techniques. But some of it can be recovered using *Carbon Dioxide Enhanced Recovery* which involves injecting carbon dioxide into the well reducing viscosity and enhancing flow of the oil.

Rich Gas: Rich gas is gas that is predominantly methane.

Site abandonment: Site abandonment involves plugging the well when a recently drilled well lacks the potential to produce economic quantities of oil and gas or when a production well is no longer economically viable.

Shot Hole: A Shot Hole in oil exploration is a drilled hole in which explosives are put for blasting.

Sour gas: Sour gas is gas with significant quantities of hydrogen sulphide.

Spot Market: A spot market is a commodities or securities market in which goods are sold for cash and delivered immediately. Future transactions are transactions for which commodities can reasonably be expected to be delivered in one month or less time. Though these goods are sold at spot prices, the goods involved are traded on a forward physical market. Crude oil is an example of a future that is sold at spot prices but its physical delivery occurs in one month or lesser period. The spot market is also called the cash or physical market

Stabilization of Crude Oil: Stabilization of crude oil has to do with removing dissolved gases from crude oil tanks to stabilize the true vapour pressure of the crude.

Stock Tank Oil Industry In Place (STOIP): Stock tank oil industry in place is the total hydrocarbon of an oil reservoir before the commencement of production. Stock Tank barrels, on the other hand, refers to the volume of oil after production. Oil in place should not be confused with oil reserves that are the technically and economically recoverable portion of oil volume in the reservoir.

Sweet Gas: Sweet gas is gas with less hydrogen sulphide.

Take-or-Pay: Take-or-Pay is a contractual clause obliging a gas buyer to pay the seller for a contractual amount of gas in a fixed period whether or not he takes physical delivery of it.

Tank Farm: Tank Farm is an industrial facility for the storage of oil or petrochemical products. For example, an oil depot.

Well Development: Well Development occurs after exploration has located economically recoverable field. It involves the construction of one or more wells called appraisal wells. Well development may lead to well abandonment if no hydrocarbons are found or to well completion if hydrocarbons are found in sufficient quantities.

Well Head: A well head is the components at the surface of an oil or gas well that provides the structural pressure for the drilling and production equipment. The primary purpose of a well head is to provide the suspension point and pressure seals for the casing strings that run from the bottom of the hole sections to the surface pressure control equipment. While drilling the oil well, surface pressure control is provided by a Blowout Preventer (BOP). If the pressure is not contained during drilling operations by the column of drilling fluid casings and Blow Out Preventer (BOP), a well blowout can occur.

Well Intervention

Well intervention has to do with removing a defect from an oil well that prevents or will prevent the well from producing the right quantity of oil. There are different types of well intervention. The principal types are well workover and well stimulation.

Well Logging: Well logging sometimes referred to as borehole logging is the recording of data created by mud logging. Such record is known as well-log. A well log contains detail information on drilling activities. There are two approaches to well logging namely: (i) geological logging and; (ii) geophysical logging. In geological logging samples are obtained from the borehole and brought to the earth surface for study. In geophysical logging, an equipment is lowered into the earth to examine samples *in situ*.

Well Pad: A well pad is the area of land that has been cleared for a drilling rig to be mounted for natural gas or oil extraction. The pad is constructed by clearing all trees and obstacles to allow for engineering of a foundation usually made of local rocks from a quarry. An area typically 3-5 acres of land is cleared for the well pad. The pad is then ready for the drilling rig and all its supporting equipment.

Well Stimulation: Well stimulation is well intervention performed on an oil or gas well to increase production by increasing the flow of hydrocarbons from the drainage area into the bore. The assortment of chemicals pumped down the well during well drilling and completion can cause damage to the surrounding formation by entering the reservoir rock and blocking the pore throats (the channels in the rock through which the reservoir fluids flow. The act of perforation can have similar effect by jetting debris into the perforation channels. Each of these situations reduces the permeability in the well bore area and so reduces the flow of fluids into the well bore. A simple and cheap solution is to pump chemicals from surface into the well to dissolve the offending materials. Once dissolved, permeability should be restored and the reservoir fluids will flow into the well bore.

In more serious cases, pumping from surface is insufficient as it does not target any particular location downhole. This reduces the chances of pumped chemicals retaining their effectiveness when they get downhole. In cases like this, it is necessary to spot the chemicals directly at its target by the use of coiled tubing. Coiled tubing is run in a hole with a jetting tool on the end. When the tool is at its target, the chemical is pumped through the pipe and is jetted directly onto the affected area. This can be more effective than pumping from the surface, though it is much more expensive and accuracy depends on knowing the location of the damage.

Well Workover: A well workover refers to any kind of well intervention involving invasive techniques such as wireline, coiled tubing or snubbing. More specifically however, it refers to the expensive process of pulling and replacing well completion. Simply put, a workover means to rework the well. A workover is one of the complex, expensive and tedious type of well work. It is only performed if the completion of the well is terminally unsuitable for good oil production. The producing tubing may have

become damaged due to operational factors like corrosion to a point that well integrity is threatened. Downhole components such as downhole tubing, safety valves or electrical submersibles pumps may be malfunctioning and need replacement.

In other circumstances the reason for a workover may not be that the well completion itself is in bad condition, but that changing reservoir conditions makes the former completion unsuitable. For instance, a high productive well may have been completed with 5 tubing to allow high flow rates – narrower tubing would have unnecessarily choked the flow. Some years on, decline in productivity means the reservoir can no longer support stable flow through the wide bore. This may lead to a workover to replace the 5 tubing with a 4 tubing. The narrower bore makes for more stable flow.

Before any workover, the well must first be *killed*. Because workovers are planned in advance, there is much time to plan the well kill. The workover begins with removing the well head and possibly the flowline, then lifting the tubing hanger from the casing head, thus pulling the completion of the well.

Though predominantly on oil and gas law, this is nonetheless a veritable Reference Book on the oil and gas industry in Nigeria. It places before anyone interested in the oil and gas industry basic and critical oil and gas issues not in common circulation in existing texts on the subject.

The book is arranged in such a chronological order, like reference books and dictionaries tend to be, that a lay person in going through it would now know how oil is explored and found, how oilfields may be onshore and offshore, how oil blocs are bidded for, how oil is drilled, including associated gas deposits, among others. The transportation of oil and gas, storage of oil and gas, refining of oil and processing of gas, marketing of oil and gas, the impact of oil and gas exploration, production and revenues on the Nigerian environment, politics and economy and a myriad of other issues are comprehensively covered.

The book should prove most useful to the lawyer, petroleum geologist, petroleum engineer, policy makers, investors, local and international development agencies and bodies, lecturers and students specialising in wide ranging subjects as economics, development studies, engineering, management, public administration, insurance, marketing, accounting and finance.

PART A: Oil and Gas Policy, Regulatory and Operational Institutions - Policy and Regulatory Institutions - Operational Institutions - International and Indigenous Oil Corporations- International Oil and Gas Corporations - **PART B: Upstream Oil and Gas Issues, Law and Policy** - Discovery, Uses and Importance of Oil and Gas in Nigeria - Surveys for Oil and Gas and Mapping of Oil and Gas Blocs - Petroleum Geology, Petroleum Engineering, Naming and Designation of Oil Fields, Wells and Discovery Reports - Oil Exploration, Oil Prospecting and Oil Mining – Drilling and Production of Oil - Gas Gathering and Processing - Storage of Oil and Gas - Transportation of Crude Oil and Gas - Risks and Expenses of Oil and Gas Operations and the Guarantees Needed For Oil and Gas Operations - Ownership of Oil and Gas – **PART C: Prototype Oil and Gas Contracts** - The Concession - Joint Venture and Joint Operating Agreements - Production Sharing Contracts - Service Contract - FPSO Charter Contract - Crude Oil Term Sale Contract - Fiscal Incentives and Returns on Oil and Gas - Stability of Oil and Gas Investment Contracts and Protection of Foreign Investment - Corporate Environmental Responsibility and Corporate Social Responsibility of Oil and Gas Corporations - **PART D: Downstream Oil and Gas Issues, Law and Policy** - Refining of Petroleum and Processing of Gas - Marketing of Refined Petroleum and Gas - Transportation of Refined Petroleum and Processed Gas - Exportation of Crude Oil and Gas - Importation of Refined Oil and Processed Gas - **PART E: Economic, Political, Environmental and Social Impacts of the Nigerian Oil and Gas Industry** - Economic and Political Impact of the Oil and Gas Industry - Environmental and Social Impacts of Oil and Gas Industry on Host Communities - Topical Issues in the Oil and Gas Industry

The Author

Adamu Kyuka Usman, hails from Bafai-Kanai in the middle part of Nigeria. He holds a Bachelors, Masters and PhD degrees in law and is a Professor at the Faculty of Law, Ahmadu Bello University, Zaria. Other law books by the author include: *The Theory and Practice of Environmental Protection Law*, *The Theory and Practice of International Economic Law*, *Law and Practice of Equity and Trust*.



ISBN 978-987-547-755-1

